FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

JULY, 1948

OHIO STATE
UNIVERSITY
1948
RY

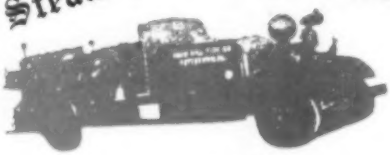
Water Shortage Stymies Fire Fighters at Rising Star, Texas

A CASE · SHEPPERD · MANN PUBLICATION

SEVEN AT ONCE

INSTITUTED JANUARY 6, 1871 INCORPORATED MAY 24, 1871

Goodwill Steam Fire Engine Co., No. 1



POTTSTOWN, PENNA.

PHONE 92

April 22,1948

Mr. James E. Kidd
J.H. Emerson Company
39 Hilaire Road
St. Davids,Penna

Dear Mr. Kidd:

Since we are one of the first users of the Emerson Resuscitator employing the dual or so-called military mechanism we think that you will be interested to know that we have been using this unit on many occasions and in the last few years feel that it has definitely saved at least twenty five lives.

One of the outstanding instances was a call for disaster in Stowe,Penna. Seven persons , the Almond family, were knocked out by coal gas. In treating them we used both the Standard Portable Emerson and the dual unit you call your military mechanism. All victims were successfully revived after about forty minutes of treatment. We feel that the resuscitator saved their lives in this case and we doubt if they would have responded as well under artificial respiration.

We have had no mechanical difficulties with the Emerson and our men find it extremely simple and easy to operate.

We thought that you would be glad to have the above information and look forward to seeing you when you next come to Pottstown.

Yours truly,

Ass't Chief: Robert Roth

J. B. Poley
Asst. Chief R. Roth
W. Tosto
Chief R. E. Lindayer

EMERSON RESUSCITATORS

— GOOD WILL TO ALL —

J. H. EMERSON CO.
39 COTTAGE PARK AVE., CAMBRIDGE, MASS.

PENETRATION

Safety depends on signal penetration—the power to reach and alert those in your path.

Federal Sirens assure that safety—audibly and visually; clear-cut, penetrating tones that knife their way through densest traffic—sweeping, rotating red blades of light that command instant attention, this dual-action of light with sound means fast *re-action* to your signal. Federal Sirens with the famous Propello-Ray light give the most effective, penetrating signal protection yet developed.

To assure your vehicles the safest traffic penetration—

***Specify* FEDERAL SIRENS**

FEDERAL ENTERPRISES, INC.

formerly FEDERAL ELECTRIC COMPANY, INC.

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

Ammunition!

THE modern engineering or professional journal must serve its readers in many ways, and one of the measures of its usefulness is the degree to which its subscribers rely upon it to help them advance their own best interests and those of the profession or industry they represent.

● This quality of providing "ammunition"—usable, helpful information—for its army of readers has been one of the main reasons why FIRE ENGINEERING has been so universally "accepted" in the ranks of the nation's fire control leaders. "Check with FIRE ENGINEERING" has been more than a catch phrase among its readers—it's a fixed custom!

● For example: consider Fire Chief William B. Thomas, progressive fire control strategist and practical fire fighter, of Binghamton, N. Y.

● When Chief Thomas attempted to improve fire prevention practices and ordinances in his city he encountered the usual opposition. In his effort to get action he had to have facts—reliable facts and plenty of them. Long his "Bible" of the fire service, it was natural that he should turn to FIRE ENGINEERING.

● Before he was through winning his case he had bought and distributed, where they would do the most good, 64 copies of the January, March, August and September, 1946, issues—and 48 copies of the January, February and March, 1947, numbers—a total of 112 copies!

● Chief Thomas is one of many who take and rely upon FIRE ENGINEERING for its factual, authoritative "ammunition"—and who utilize its editorial and advertising content in the day-by-day operation and administration of their fire forces. It is this readership that inspires the publishers to greater efforts.

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Works Engineering, Sewage Works Engineering*, etc. ¶Subscription price: U. S., Latin America and Canada, $3.00 a year; Foreign, $4.00; Single copies, 35c. ¶Member of Audit Bureau of Circulations and Associated Business Papers, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879. ¶Contents of this issue copyrighted, 1948, by Case-Shepperd-Mann Publishing Corp. President and Advertising Director, KARL M. MANN; Vice-President and General Manager, I. HERBERT CASE; Secretary and Editorial Director, FRED SHEPPERD; Assistant Advertising Director, WALTER H. FREDRICKS; Eastern Representative, ALFRED J. HOUGHTON; Advertising Manager, WILLIAM J. GIBSON; Circulation Manager, W. H. TOPHAM. CHICAGO OFFICE: W. S. CLEVENGER and L. M. ROCHE, 8 So. Dearborn St., Chicago 3, Ill.; SAN FRANCISCO: CHARLES H. WOOLLEY, 605 Market Street, San Francisco 5, Calif.; LOS ANGELES: AUGUST HAURIN, 6000 Miramonte Blvd., Los Angeles 1, Calif. ¶Printed in U. S. A.

A CASE-SHEPPERD-MANN PUBLICATION
"Specialized Leadership"

Warsaw Daily Union

Warsaw, Indiana, Thursday, April 29, 1948

Solreco Plant Scene Of Blaze

Atwood's New Type Equipment Works

An early-morning oil fire brought four departments to Solreco oil refining plant between Leesburg and Milford at 5 o'clock Wednesday morning. Firemen from three towns battled billowing oil flames for nearly one and one-half hours, until Atwood, with new-type fog equipment, extinguished the blaze in less than two minutes.

The county firemen's organization was brought into play in order to give adequate protection to towns vacated by their own fire equipment. Warsaw sent one truck to the fire, while Winona Lake covered for Warsaw. Milford answered the alarm and Syracuse sent one of its two trucks. When these three conventional trucks could not extinguish the blaze, Syracuse firemen moved their rural truck on to Atwood, and Atwood's single truck came to the fire.

The blaze was quickly smothered with high-pressure fog.

Three Men on Duty.

Marshall Gay, local manager of the refinery, said three men were on duty when the blaze started. They were Delbert Rusher, Herbert Timmons and Raymond Fifer. Rusher first noticed the fire reflection against an outside window, and called the other two men. After unsuccessful efforts to control the blaze, Milford, Warsaw and Syracuse fire departments were called.

Oil from a 3,000-gallon storage tank had been dumped into a depression at the rear wall of the plant when a 15-foot section of pipe exploded. Towering flames enveloped the rear corner of the brick refinery and could not be stemmed with normal use of water. Firemen used hose lines inside the plant to prevent the fire from catching on the inside of the brick firewall. Window sills were burned, door frames burned and a section of roof near the rear of the plant burned.

The factory and neighborhood were in constant danger from shortly before 5 o'clock to 6:30 Wednesday morning, as the oil-fed flames continued to roar up the back refinery wall.

At 6 o'clock, Syracuse firemen offered to drive on to Atwood, which has only one fire truck, if the Atwood firemen would respond with their high-pressure fog equipment—similar to the Winona apparatus which was standing by for Warsaw.

Fire Out in Two Minutes.

Within two minutes after two lines of fog were brought to play upon the flaming oil, the fire was out.

The 3,000-gallon oil tank outside the plant was damaged by heat and pipe-lines leading from it were exploded. One section of roof suffered partial damage, but it is believed the refinery can continue to operate while repairs are being made.

This is a newspaper story of a recent fire in Warsaw, Indiana. Not one word has been changed.

READ HOW a John Bean High-Pressure Fog Fire Fighter extinguished a dangerous oil fire in *less than two minutes.* This same fire had resisted the efforts of three conventional fire engines for *nearly one hour and a half!*

Our files are full of such testimonials on Bean Fire Fighter performance. Details will be furnished on request.

THIS IS THE Bean Fog Fire Fighter that did the job. Bean High-Pressure Fog Fire Fighters carry their own water supply—provide two guns of 30 gallons each—850 lbs. pump pressure. Delivered complete with all accessories.

BEAN *Original* **HIGH-PRESSURE FOG FIRE FIGHTER**

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY CORPORATION

JOHN BEAN DIVISION, DEPT. 126, LANSING 4, MICH. • BEAN-CUTLER DIVISION, 409 JULIAN ST., SAN JOSE, CALIF.

BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS

Motorola FM 2-way radio

YEARS AHEAD OF THE FIELD!

NO OTHER MANUFACTURER CAN MATCH THIS LIST OF *Motorola* RADIO COMMUNICATION "FIRSTS"

- **first** with noise-compensated squelch that makes present day 2-way radio communications practicable. (U.S. Patent 2343115)
- **first** to develop the vibrator power supply in receivers—now accepted as the best power supply system.
- **first** with 20 D.B. quieting at 0.4 microvolt input.
- **first** to build successfully equipment for the 152-162 mc. band.
- **first** with "Precision Selectivity" for channel conservation.
- **first** with Precision Cavity for intermodulation control.
- **first** with dozens of other major developments in radio communications.

Inspired engineering and careful craftsmanship are your guarantee that the *Motorola* equipment you buy today will be *years ahead for years to come!*

Of course the Motorola equipment you buy today will last longer — that has been proved by hundreds of official records. But just as important to you is the fact that the Motorola equipment you buy today is guaranteed against early obsolescence by the many advanced developments it incorporates — developments that will not be duplicated in other equipment for months — or years. Motorola is able to stay ahead of the field because it has the largest FM 2-way radio communications laboratory and more qualified radio communications developmental engineers than any other manufacturer in the industry — BAR NONE.

See for yourself how much MORE Motorola gives you. A Motorola Communications Engineer will be glad to call and discuss radio communications as it concerns your specific problems. He'll put you in touch with people in your business who are using Motorola equipment. He'll give you FACTS, not fiction — FIGURES, not fables — WRITE TODAY.

Motorola FM 2-WAY RADIO

Motorola Inc.

Communications Division: 4545 Augusta Blvd., Chicago 51, Ill.
In Canada: Rogers Majestic Ltd., Toronto - Montreal

New B. F. Goodrich booster hose takes 800 lbs. working pressure

NEW B.F.Goodrich "Fire King" is the *first* booster hose especially designed to take the higher working pressures of the newest fire rigs.

Highest strength under pressure—Especially designed for modern fire-fighting equipment, this new hose easily handles working pressures of 800 lbs. per square inch. New high pressure couplings take the highest hose pressures. Because of its stronger construction "Fire King" will not flatten out on the reel, or shorten under pressure. Oxygen bomb tests show that this hose will outwear any booster hose ever made. A durable cover of "fire-department red" resists abrasion.

Many times more flexible—More flexible than ordinary booster hose, either present or prewar. The ¾" hose weighs only 40 lbs. per 100 ft. Cords of higher tensile strength cut bulk, increase flexibility. This makes "Fire King" easier to roll up on the reel, lets you carry more hose.

Fine for "fog"—"Fire King" is ideal for use with the new type of fog nozzles. The 1" size is especially adapted for use with fire department fog nozzles now in service. Gives the most efficient stream distance and water fog with any type of equipment.

"Fire King" Booster Hose comes in convenient 50 ft. lengths in ¾" and 1" sizes. Ask your local B.F.Goodrich distributor to show you this hose especially designed for modern fire-fighting. *The B.F.Goodrich Company, Industrial Products Division, Akron, O.*

B.F.Goodrich
FIRST IN RUBBER—

UNLESS YOU HAVE "MONEY TO BURN" READ THIS---

Every year, more than 11,000 lives are lost by fire. Last year, property loss through fire reached a staggering total of more than $600,000,000.

Insurance can give you protection from financial loss through fire. But you need more than protection. You need fire prevention. Fire prevention can help you avoid property loss and—even more important—loss of human life.

The best possible fire prevention you can buy is a GENERAL QUICK AID FIRE GUARD, located within easy access of every possible fire hazard.

Unless you have plenty of money to burn, install plenty of QUICK AID FIRE GUARDS in your place of business, your car, your home. There are five different types of QUICK AID FIRE GUARDS—a right extinguisher for every fire hazard. Your GENERAL dealer will help you select proper extinguishing equipment—without obligation on your part. Look for his name under "Fire Extinguishers" in your classified telephone directory—or write direct.

GENERAL QUICK AID FIRE GUARD

THE GENERAL DETROIT CORP.

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Subsidiaries:

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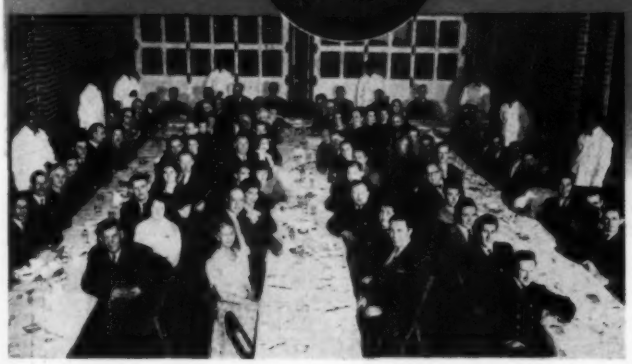
TORONTO • MONTREAL

REALLY Worth Celebrating . . . WHEN IT'S A MACK!

Dedication banquet of Riverdale Volunteer Fire Department, Riverdale, Md., to celebrate acceptance of two Mack Type 85, 750-gallon pumpers, painted white, black and gold, with hand-painted design and seal of Maryland on each cab door. Illustrated apparatus equipped with special floodlights powered by fully automatic and separate lighting plant.



Firemen everywhere feel a justifiable pride in putting a new Mack into service. For with Macks, they get the finest in fire apparatus. And they know that Macks are backed by the greatest service facilities in the field — a coast-to-coast network of over 700 Mack factory branches and dealers for quick attention to parts and service requirements. When ordering your next apparatus, remember that there's a Mack best fitted to fill your needs. You'll want to celebrate, too, when you *Modernize with Macks!*

Mack

FIRE APPARATUS

MACK MANUFACTURING CORPORATION
Fire Apparatus Division, Long Island City 1, N. Y.

Factory branches and dealers for parts and service in all principal cities. In Canada, Mack Trucks of Canada, Ltd.

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TRIPLE COMBINATION PUMPERS — 500 TO 1500 GALLONS . . . SQUAD WAGONS . . . CITY SERVICE AND QUADRUPLE COMBINATION LADDER TRUCKS

Leading fire departments standardize on

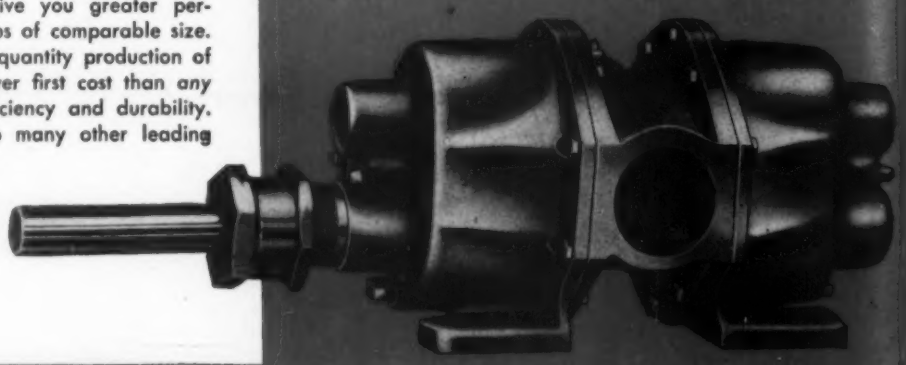
OBERDORFER

Booster Pumps

for efficiency, dependability and economy

Corrosion-resistant, *all-bronze construction* means Oberdorfer Booster Pumps last longer, need less service. Efficient design and perfect alemite lubrication mean they give you greater performance than most pumps of comparable size. Oberdorfer's tremendous quantity production of bronze pumps means lower first cost than *any other* make of equal efficiency and durability. Your department, like so many other leading departments, can save money and do a better job with Oberdorfer Booster Pumps. Write for complete details and name of your distributor.

OBERDORFER BRONZE
PUMP No. 26



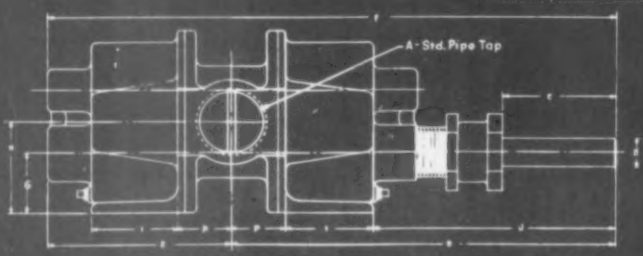
SPECIFICATIONS – Oberdorfer Bronze Fire Pump No. 26

DIMENSIONS

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
2	1	4	13 1/16	6 13/64	19 3/8	2 1/8	3 1/4	2 31/32	8 3/32	6	6 1/2	7/16	2 1/2	1 5/8	1 53/64

PERFORMANCE DATA

Pump Shaft RPM	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
1600	120	500'—1½"	15'	150

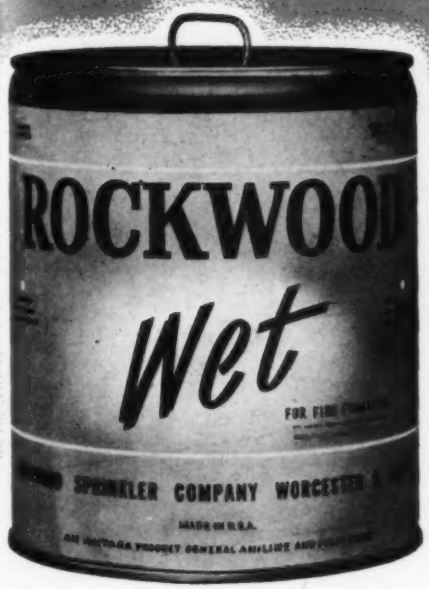


LIST PRICE $172.50

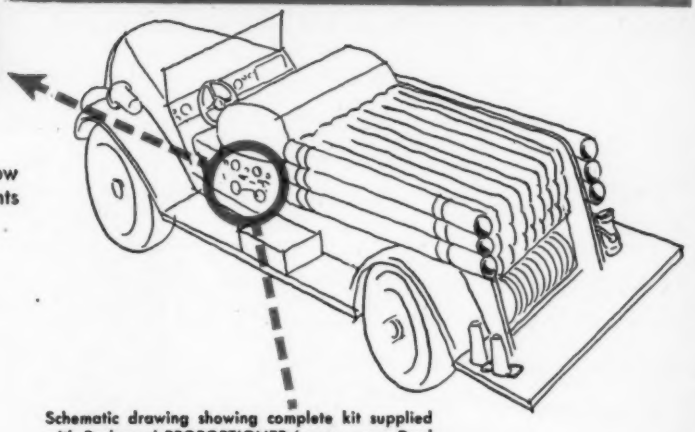
For complete specifications of this and other Oberdorfer Fire Pumps and name of distributor, write—

Fire Pump Division OBERDORFER FOUNDRIES, INC. Syracuse 1, N. Y.

ROCKWOOD presents



A NEW WETTING LIQUID and NEW EQUIPMENT FOR AUTOMATICALLY FEEDING IT INTO FIRE HOSE LINES



Schematic drawing showing complete kit supplied with Rockwood PROPORTIONER (across pump Dual A model) with Rockwood MULTIMETER.

Two newsworthy Rockwood developments are now being presented *hand-in-hand* to the fire departments of the country.

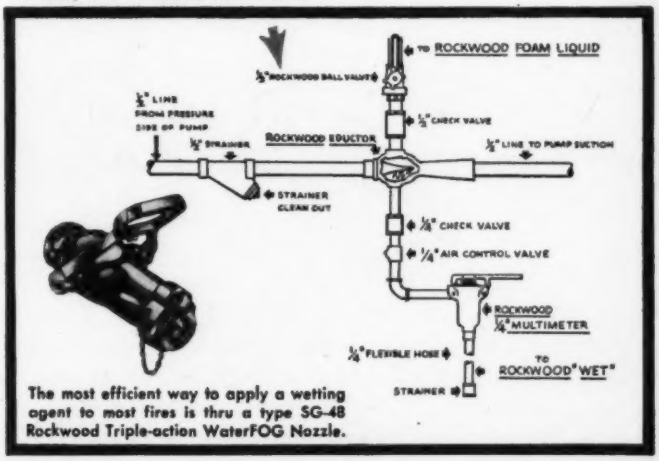
1. Rockwood WET — a new wetting liquid prepared specially for fire fighting. It will increase the fire extinguishing action of water thus making a little water go a long way.

2. Rockwood Automatic equipment for feeding Rockwood WET into your fire hose lines on your fire trucks. This is known as the Rockwood PROPORTIONER (across pump Dual A model). This new PROPORTIONER can also be used to automatically feed Rockwood mechanical foam liquid to your hose lines similar to the method used in proportioning the wetting liquid.

This combination of Rockwood WET and our new Automatic dual PROPORTIONER will help improve the fire fighting efficiency of your fire department. It will retain its remarkable penetrating action even at fire temperatures.

The new Rockwood PROPORTIONER handles wetting liquids efficiently and quickly.

Write for complete descriptive literature and prices.



The most efficient way to apply a wetting agent to most fires is thru a type SG-48 Rockwood Triple-action WaterFOG Nozzle.

ROCKWOOD

ROCKWOOD SPRINKLER COMPANY

54 HARLOW STREET WORCESTER 5, MASSACHUSETTS

Specialists in Fire Protection Engineering, Equipment and Installation since 1907

YOU FIRE DEPT. OFFICIALS WHO HAVE

MARS SIGNAL LIGHTS

On your Fire Apparatus and Officers' Cars know you can always depend on this positive, trouble-free, Figure 8 Warning Signal Light to clear traffic and prevent accidents.

YOU HAVE DEMONSTRATED YOUR CONFIDENCE IN THE MARS SIGNAL LIGHT BY INSISTING ON IT WHENEVER YOU ORDER NEW APPARATUS

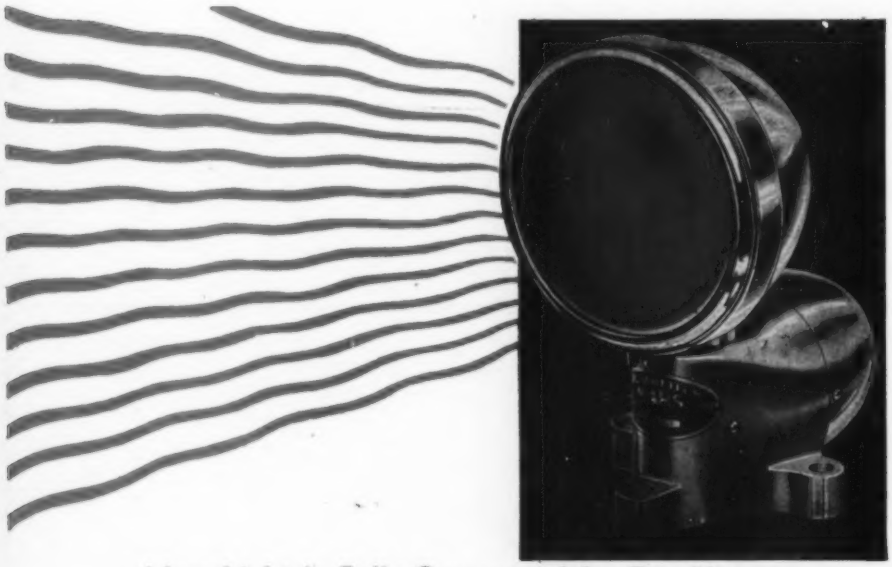
IF YOU ARE NOT USING THE MARS SIGNAL LIGHT WHY NOT GET ONE NOW AND TRY IT?

WE KNOW YOU'LL WANT ONE FOR EACH PIECE OF APPARATUS AND OFFICER'S CAR AFTER YOU DO

THERE ISN'T ANOTHER LIGHT LIKE IT

MARS SIGNAL LIGHT — with its powerful figure 8 beam of red light—flashes a mile ahead of your apparatus, from building line to building line and hundreds of feet into the air. Traffic approaching intersections ahead of you see the powerful figure 8 red beam long before you reach the crossing. Motorists everywhere recognize this light. More than 11,000 are already in use on fire apparatus from coast to coast.

WHY BUY ANYTHING BUT THE BEST?



Mars Light Is Fully Guaranteed for Five Years
Mars Has Never Failed to Back Up This Guarantee and Never Will

WHEREVER SAFETY OF FIREMEN, APPARATUS AND THE PUBLIC IS THE FOREMOST CONSIDERATION YOU'LL FIND FIRE DEPARTMENTS USING AMERICA'S FOREMOST WARNING SIGNAL LIGHT

IMMEDIATE DELIVERY

For prices and complete information write to

MARS SIGNAL LIGHT CO.

5737 W. DIVISION ST.
CHICAGO, ILL.

It's MARS from Coast to Coast

Insist on MARS when you order New Equipment—Install it on Present Equipment

Kindly mention FIRE ENGINEERING *when writing advertisers*

This aerial view of the Ward LaFrance Corporation at Elmira, N. Y. indicates the enlarged and improved facilities now producing more and better fire apparatus, motor trucks, and other specialized heavy-duty vehicles.

Thirty years of fire engineering and manufacturing experience plus these modern plant facilities are conclusive evidence that Ward LaFrance can be depended on for fire fighting apparatus essential to your community. As always, Ward LaFrance is ready to help you determine the specifications for a pumper that will give your community the fire protection it should have. You will find Ward LaFrance Pumpers fully equipped to do the job of fire fighting required by your local conditions. Write today for illustrated bulletins.

Ward LaFrance Engineering Department will gladly furnish competent counsel to help solve your fire engineering problems.

Ward LaFrance has a profitable opportunity for an experienced fire apparatus sales organization. Write for details.

WARD LAFRANCE TRUCK CORPORATION
ELMIRA, NEW YORK

It will help if you will mention FIRE ENGINEERING *when writing advertisers*

SUDBURY IS FIRST TO MOBILIZE!

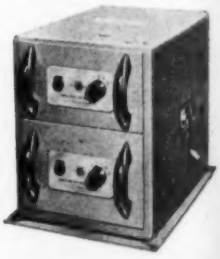
Leads Volunteer Fire Departments with Split-Second Alarms by Federal Mobile Radio

This model volunteer fire department—the first of its kind—is the pride of Sudbury, Massachusetts. It's mobilized! With Federal "Selecto-Call" Mobile Radio equipment. So quickly do civilian firemen now respond to an alarm that they rival professionals in efficiency and can give quick aid to neighboring towns.

Mobilization of the entire fire-fighting force takes only a matter of minutes. "Selecto-Call"—an exclusive Federal feature—contacts any specific group of mobile units to the exclusion of all other receivers tuned to the same frequency. A telephoned alarm automatically sets off a large bell in the Fire Station. The call is transmitted by firemen on duty to ten strategically-located house receivers, and relayed by telephone to ten alternates. The Fire Chief is notified over his own channel. The Police Chief, too, is alerted over his channel.

Not only has this ultra-modern system solved the problem of immediate alarm, but it takes care of false alarms, too. Volunteers can be recalled *before leaving their work or homes.* The two fire trucks can keep in touch with each other, for closer cooperation while operating over a large area. Fire and Police Chiefs can contact each other as well as the fire trucks. If another fire breaks out, equipment can be dispatched directly without delay.

Federal offers complete mobile radio equipment for fire and police departments, for service cars, for "anything that moves." For complete information, write to Department I-490.



Federal's mobile equipment is available in weather-proof housing for outdoor installations.

Federal's Mobile Transmitter-Receiver Unit

KEEPING FEDERAL YEARS AHEAD... is IT&T's world-wide research and engineering organization, of which the Federal Telecommunication Laboratories, Nutley, N. J., is a unit.

Federal Telephone and Radio Corporation

100 KINGSLAND ROAD, CLIFTON, NEW JERSEY

In Canada:—Federal Electric Manufacturing Company, Ltd., Montreal, P. Q.
Export Distributors:—International Standard Electric Corp. 67 Broad St., N. Y.

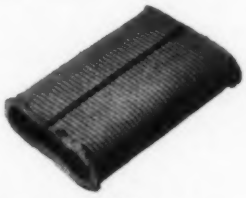
EASIER, FASTER HANDLING WITH COMPACT, FLEXIBLE BWH FIRE HOSE

Even-folding, flat-cured BWH Fire Hose stores so compactly in the truck, it's possible to carry longer lengths in less space. And that extra "reach" may mean everything in a crisis!

Originators of modern fire hose, BWH still leads the parade of progress in developing fire hose improvements. No other hose is easier to handle, or more rugged and long lasting.

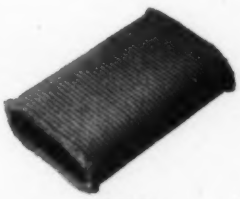
The sales agent for BWH Fire Hose in most communities is the General Detroit Corporation, famous for years as experts in fire apparatus. Dependable BWH and "General" service are therefore combined, to bring you the best possible equipment to meet your city's particular needs.

Look for the "General" trade-mark in the classified section of your phone book — call your "General" representative next time your city needs fire hose.



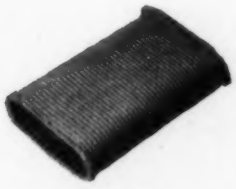
BWH
"BOSTON FIRE JACKET" HOSE
Double Jacket

Carefully pressure tested and inspected. Really rugged, yet surprisingly flexible. For cities that want the best.



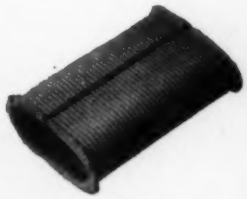
BWH
"PARAMOUNT" HOSE
Double Jacket

Famous for its flexibility, long life, dependable ruggedness. Made of fine materials.



BWH
"MILO" HOSE
Single Jacket

Big value for communities where light service hose answers. Durable, long lasting, easy to handle.



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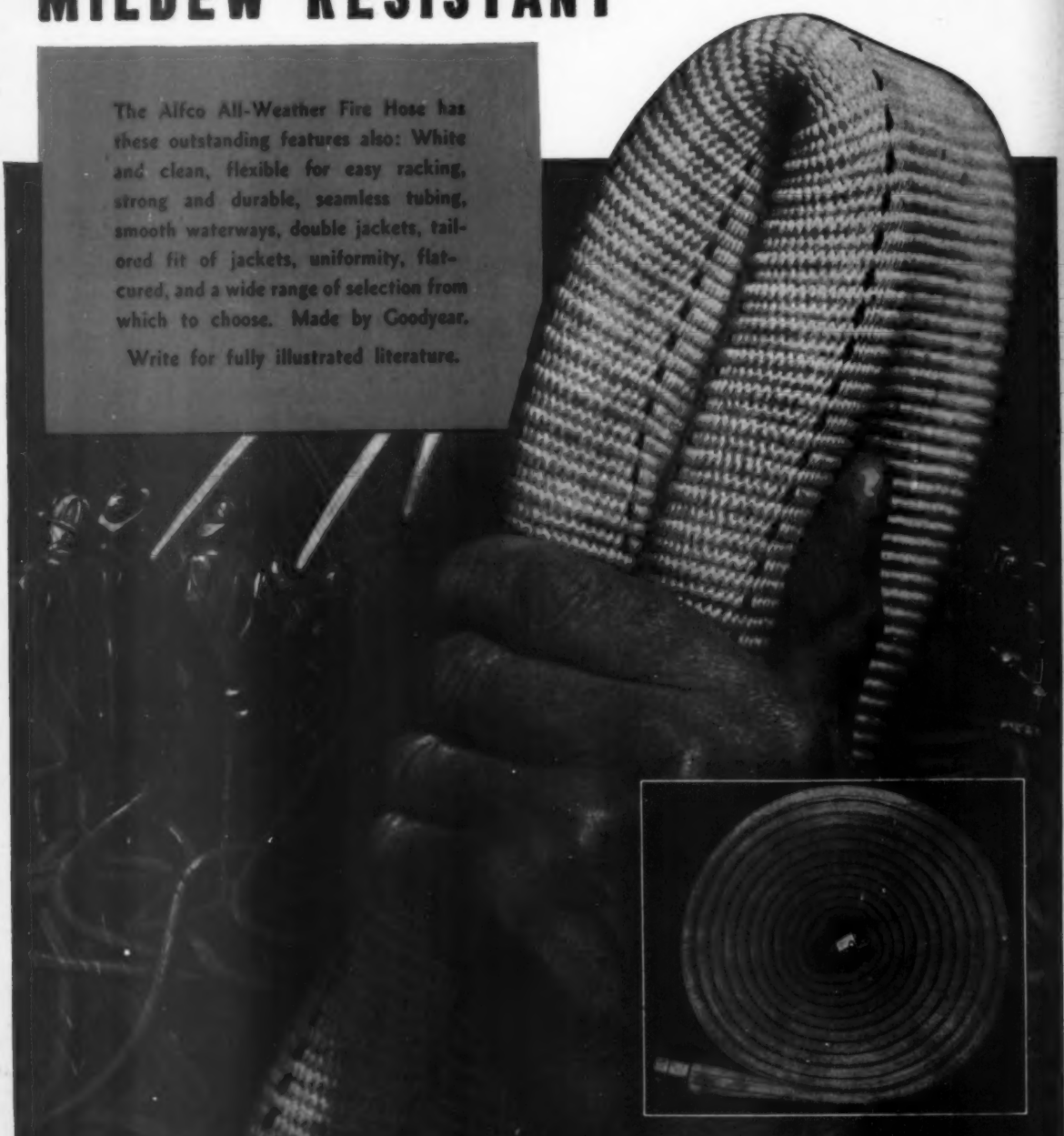

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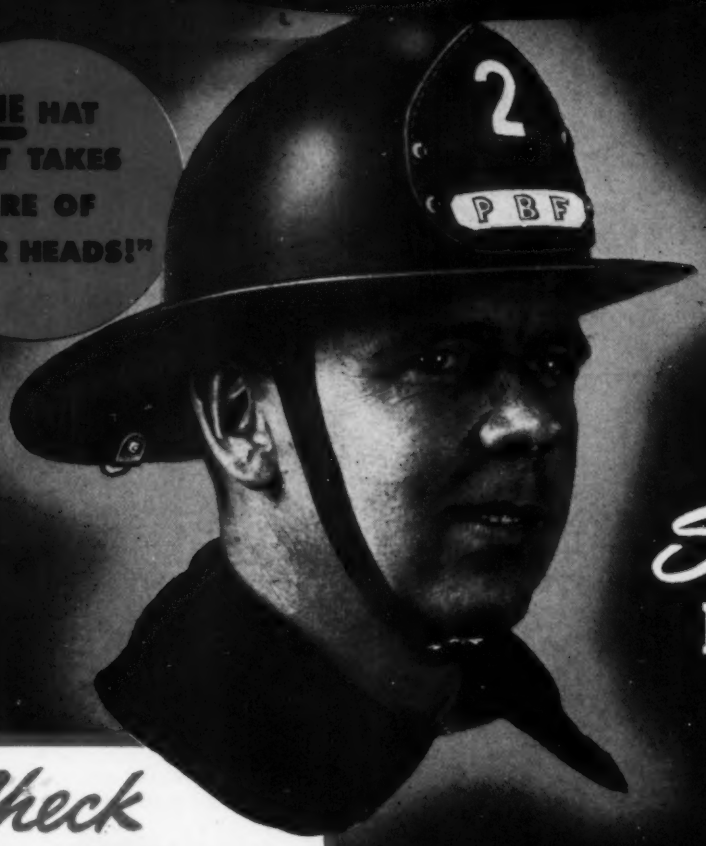

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FIRE ENGINEERING

JULY, 1948 VOL 101, NO. 7

With the Editor

What Price Economy!

In its May editorial, FIRE ENGINEERING warned the fire service, and those civic bodies which govern its destinies and its budgets, of the false economy in putting off the purchase of modern fire apparatus and equipment, so critically needed to arm the fire service now in its fight against the rising losses of life and property from fire.

That message hit home in many municipalities. At the same time, it brought forth from our readers who head fire control forces, considerable additional evidence to support our contentions, evidence of misdirected and misapplied economies on the part of civic adminstrations which is more pessimistic than we had pictured it.

Take for example, this terse, pointed statement from the fire chief of a city of about 10,000 population. He writes:

"In the interests of economy, our city council has voted to do away with our fire inspector, who happens to be a very competent man; his salary is to be used towards paying for a 10% increase in pay asked for by our permanent force, eight in number. I do not call this economy."

Nor do we call this economy. If this is economy, it is in line with the short-sighted economy that says, "All right, Mr. Fire Chief, we'll give your department shorter working hours, but in the interests of economy, we'll have to shut down a few of your fire stations so as to redistribute your present manpower, in order to do it; we can't afford to add more men and higher payrolls right now."

It is the same sort of astigmatic economy which some civic officials advocate when they say: "If we pay our men more money (which even the most penurious taxpayer and civic officials can hardly question they deserve) we'll have to forego purchase of modern apparatus and other facilities."

It is the same sort of economy that was practiced by so many municipal governments back in the depression days of the 1930's in turning deaf ears to this journal and other proponents of the fire service who were urging municipalities to replace outmoded fire apparatus with new models, which could have been done with real economy, prices then being at the very bottom. At that time the cry was: "Depression budgets won't stand it!"

Today, with municipal incomes higher than ever in history, and with a favorable bond market, and with the need of replacement and of expansion more critical than at any time in the history of the fire service, the answer is all too often: "We'll wait—budgets won't stand it!" And so, when practically forced to take some action, make some concessions, the "rob Peter to pay Paul" kind of economy is practiced.

It is true that apparatus and equipment manufacturers have been loaded with orders. But it is also true that the backlog of orders is growing smaller in some quarters and that deliveries being made are on requisitions filed from eight months to two years ago. Actually, there is reason to believe that the flood of apparatus orders has slackened, although the requests for quotations continue high.

To those fire officers, commissioners and others charged with the advancement of the fire service, we repeat: Things are not going to be better in the price line; rather, they will be worse, if present trends continue. The shortages that will flow from the defense program late this year will increase next year. The defense program, the Marshall Plan exports, and lend-lease demands on our resources, sure to come later according to all the economists, plus the civilian requirements which are to be tied into military plans, will make more of a drain on critical materials than is generally known. All this will have its effect on the production and distribution of fire control facilities.

From the standpoint of its importance as the most vital emergency municipal service, fire departments should rate top priority in the scale of municipal purchasing for improvement, modernizing and maintenance of its critical facilities. There should be no temporizing with public safety in the name of economy. Real economy consists in buying 'round the clock, not according to manufacturers' price, but by the needs of the service for the facilities.

Right now these needs are growing faster than they can be supplied. Those who fail to recognize these facts and continue to procrastinate will later have to face the consequences.

Fred Sheppard

Fire Toll High in Churches and Religious Occupancies

Prevention and Control of Such Fires Poses Problem for Fire Service

By ROI B. WOOLLEY

THERE were in continental United States in 1947, 256 religious bodies with 253,762 churches and an inclusive membership of 73,673,182 as compared with 256 Religious Bodies with 199,302 churches and a membership of 55,807,366 in 1936 (U. S. Bureau of Census). In addition, there are countless religious schools, academies, hospitals, convents and other religious and semi-religious institutions.

There is not a community of any size in this country that does not possess one or more churches. Religious meeting places are likewise to be found in rural districts, at cross-roads, far from political subdivisions and in some cases, distant from any organized fire protection.

The property value of these vast religious holdings is not known but it runs into the billions of dollars. The task of protecting this wealth of property and the lives of parishioners from consuming fire is the responsibility of the nation's fire services.

The question logically follows, how effective is this protection? Is there room for improvement? If so, what can be done, and by whom?

This study attempts to answer these and related questions.

Church Losses High—and Continuing

At the outset, it can be safely stated that churches of ordinary construction have a bad fire record.

The record, although incomplete, indicates that over the past four decades fire has destroyed more than a quarter of a billion dollars worth of churches and religious properties. This destruction is said to be continuing at the rate of approximately $5,000,000 per year in churches alone.

In the period 1919-1920 the National Board of Fire Underwriters reported church losses (including chapels) of $6,183,338. There were 3,500 fires, or an average of approximately five church fires daily. The report showed that only 62 per cent of these losses were insured.

Statistics Do Not Give True Loss Picture

The available data show a high loss ratio in the per cent of loss to property involved in church fires; it indicates, also, that contents losses are a much smaller proportion of the entire loss than is true of most occupancies.

What the figures do not tell, however, is the total destruction measured in terms of the loss of priceless, irreplaceable historic relics, heirlooms and records. Commenting on this detail, the National Board of Fire Underwriters said (Feb. 1922): "In many instances, besides the money loss involved (in church fires) irreparable damage is done to historical paintings and manuscripts." The Board pointed to the destruction of the Plymouth Church, Brooklyn, and the loss of priceless documents including original sermons by Henry Ward Beecher, written during his pastorate, as well as his portrait and rare stained glass windows.

In most cases, church fire losses are felt by entire parishes, where people in all walks of life contributed of their savings to erect the churches that were lost. To rebuild fire wrecked structures under these conditions is a discouraging task, especially in view of the widespread under-insurance of such properties.

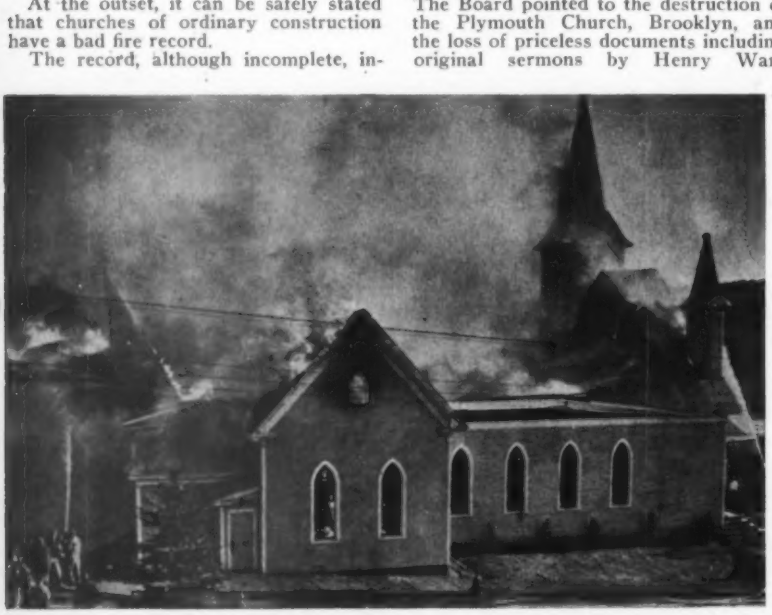
Discussing these losses, the National Board said "There is a good deal of discussion these days to the effect that the congregations attending places of worship on the Sabbath are not as large as they ought to be; in other words, that the people are leaving the churches. In view of the fire loss record . . . however, it would seem that the churches are leaving the people."

Denominations Affected by Church Fires

Fire plays no favorites in ravishing religious property. As the National Fire Protection Association says: "Divine Providence, which would appear to be generally the principal reliance for the safety of churches, has not exempted these structures from destruction by fire."

The Association submits the following figures, based on a study of 656 church fires to show how indiscriminately fire visits places of worship of different creeds and sects.

	No. Fires
Roman Catholic	202
Baptist	86
Presbyterian	60
Methodist-Episcopal	48
Congregational	45
Methodist	43
Episcopal	39
Lutheran	25
Christian	13
Hebrew Synagogue or Temple	11
Evangelical	10
United	9
Community	7
Unitarian	6
Greek Orthodox	6
All others (less than 6 each)	46
	656

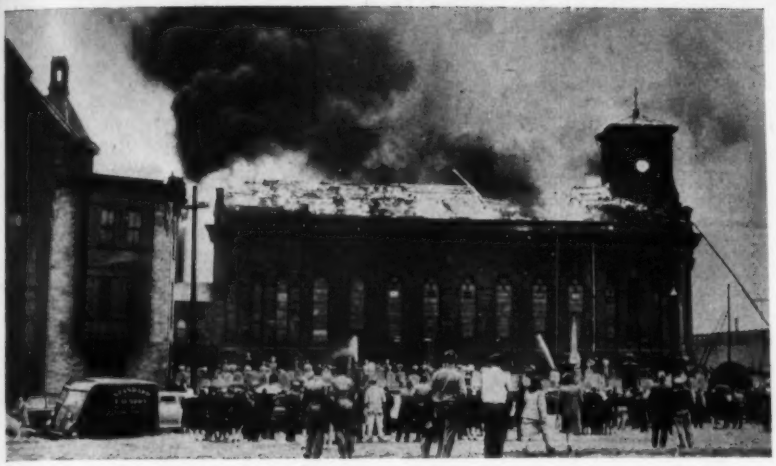


At Livermore Falls, Me., a $100,000 Fire Destroyed the St. Rose of Lima Roman Catholic Church. Part of Roof (Left) Starts to Collapse as Volunteers Man a Line

Causes of Fires in Churches

Most church fires can be attributed to a few common causes, which are easily recognized and due to readily preventable hazards. Over a period of 20 years these causes have varied but little in relative importance.

According to records maintained by this journal, checked against those data released by other authorities, by far the majority of such fires are due to, or related to the heating system. Nearly 35



Only the Burned Walls of This Old Church Remained

Reported started by a vindictive crack-pot, fire raged rapidly through the large St. Anne's Roman Catholic Church in Philadelphia. Note ineffectual streams directed into auditorium. Size, age and location of this old structure handicapped fire fighters.

per cent of church fires are caused by defective or overheated furnaces or stoves, or faulty chimneys or flues. If one includes kindred causes, such as gas stoves, oil stoves and lamps, oil burners, overheated steam pipes, the total exceeds 40 per cent.

The second most prevalent cause is the electrical system. Defective wiring, either in the lighting system, or in connection with the operation of the organ, is responsible for over 16 per cent of church fires. If to this is added lightning as a cause, the total exceeds 23 per cent.

Incendiary causes stand fourth on nearly all lists of church fires and in some areas set fires rank almost equal in number with electrical fires.

Although one might not immediately associate smoking as a cause of fires in religious structures, it is well up in the van of the list of reasons. While about every twentieth church fire is attributed to candles or vigil lights, better than one out of every twenty-five is the result of smoking.

Other causes are: sparks on combustible roofs; rubbish; exposure; spontaneous ignition of oily material or soft coal; hot ashes; blow torches; gas explosions; sparks from tinsmith or roofers' equipment; motion picture film, etc.

A large percentage of church fires cannot be laid to any specific cause. Many fire officers are of the opinion that the classifications "unknown" or "undetermined cause" cover many fires either deliberately or unwittingly set.

Loss of Life

Although the average monetary loss in church fires is large, fortunately there have thus far been no holocausts involving serious loss of life in American or Canadian churches. This is no doubt due to the fact that church fires seldom occur while the structures are occupied by congregations of worshipers.

The possibilities of heavy loss of life are great, however. Panic is just as possible with a religious congregation as it is with a night club or theatre audience. The worst church disaster on record occurred in Santiago, Chile, in December, 1833, when, as a result of panic induced by fire, some 2,000 persons, comprising most of the congregation, were killed. More recently, on April 18, 1930, 144 persons met death when a panic ensued during a fire in a church in Gaesti, Roumania.

In this country, some lives have been lost as a result of fires in parish halls, convents and other religious properties but life losses in churches have been negligible and have in the main been the result of the ignition of clothing by vigil lights or altar candles. A large percentage of these casualties were among nuns or other religious workers.

In Baltimore, on December 6, 1944, a flash fire which swept the one-story frame parish hall of St. Ambrose's Church, resulted in the deaths of six persons and injuries to fifty. The fire, of unknown origin, and resulting panic, occurred while about 200 persons were playing cards and bingo games.

A somewhat similar catastrophe occurred on January 27, 1927, when six persons were killed and twelve seriously injured, following an explosion of acetylene gas from a lighting system in the Chapel of Latter Day Saints, Turner, Idaho. The blast came when about 200 persons were assembled in the frame chapel and recreation hall for a basketball game and someone lighted a match when lighting system failed.

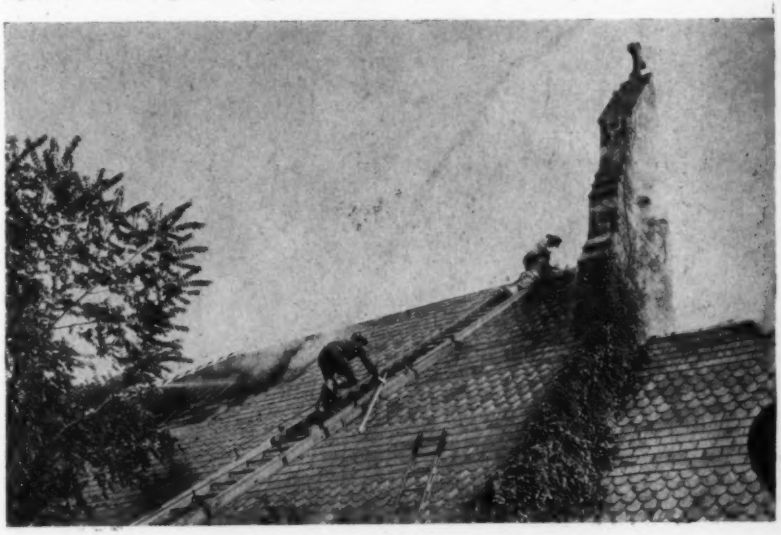
Although church fires have resulted in little loss of life to members of congregations, they have been more destructive on the fire service. Many firemen have been killed or injured in operations on church fires.

One of the worst disasters occurred on March 7, 1921, when four firemen were killed and one injured by falling walls when fire destroyed the Jackson Avenue Evangelical Sunday School in New Orleans, La. Ten years later a battalion chief was killed and five other firemen were injured when the roof of the frame Campbell A. M. E. Church in Washington, D. C., collapsed during a fire. The next year a fireman died following a 3-alarm fire in St. Francis de Assissi Church, Cambridge, Mass., and in June of 1933, another fireman met death and four were injured when an aerial ladder broke while they were fighting a fire in the Our Lady of Lourdes Church, in Toronto. A fire captain lost his life in Holyoke, Mass., in 1934, when the St. Jerome's Catholic Church was destroyed, and less than two years later, a volunteer fireman succumbed during efforts to save the Holy Cross Memorial Methodist Chapel, in Reading, Pa.

Time of Fires

It has been said that the majority of church fires are due to the heating system or the heating or lighting of the church. Exclusive of fires in parish houses or sections of the church used for weekday meetings, which may occur at any time, the majority of church fires occur after or before weekly services. This is particularly true in winter.

During the cold weather, churches as a rule, are used only Sundays. During the balance of the week they are wholly or partially unheated. On Saturday night or early Sunday, the heating system is forced in order to warm the



Aerial Ladders Facilitate Roof Work in Church Fires

Staten Island, N. Y., firemen attacking a three-alarm blaze in church attic, from above. Aerial ladder operations afford greater safety from roof collapse. Fire in fashionable 90-year-old St. Mary's Episcopal Church.

church building for Sunday services. This forcing of the heating system, in many churches of insufficient size for the heating task, results in fire.

Surveys of causes show also, that church fires appear to increase in number not only on or immediately following the Sabbath, but after weddings or other affairs where the building is used for other than religious services. Many churches hold social, fraternal and civic gatherings in either the parish house or hall, or the church itself. Some fires run current with these meetings, or immediately following them.

Usually the months of February and March record the greatest number of church fires, and highest losses in church property. In the year 1947, for example, FIRE ENGINEERING recorded 44 churches or chapels destroyed by fire and 15 damaged (including one rectory). In addition, there were five convents, schools or seminaries damaged, and one destroyed. The heaviest losses occurred in February with seven churches destroyed and six (including a seminary) damaged. March was next with nine destroyed and one damaged. April was third, with seven wrecked and three (including a rectory and hall) damaged.

Delayed Discovery and Alarm Prevalent

The fire records disclose that in a majority of church fires which resulted in total loss, the discovery of the fire was tardy, and the notification to the fire department correspondingly delayed.

This is indicated in the before-mentioned studies which show that over 60 per cent of the reported fires were detected by persons outside the church who were neither members of the church nor employed in it. Over 11 per cent of fires were reported discovered by parishioners, and only 19.3 per cent were said to be discovered by sexton, janitor or minister or priest. Policemen were given credit for detecting 3.5 per cent of the fires.

Incendiary Fires on the Increase?

Previously, incendiarism was listed as the known cause of about seven out of 100 reported church fires. Actually, the percentage is greater. Some authorities believe set fires in churches are on the increase.

As long as churches are the objects of crackpots, cranks and radicals, and are so easy to enter and touch off, and make such spectacular blazes, they will be the target of incendiaries.

Contributing Factors

In addition to the known causes of church fires, previously discussed, there are other factors which have contributed to the high loss ratio.

Churches are "plants of slow growth." Economy is a prime requisite in their erection. This has of necessity resulted in the use of combustible materials and of the minimum of safeguards, such as fire stops, improved heating, and wiring systems, and fire detection and extinguishing systems. The desire to adhere to a general architectural period or style has also encouraged the use of combustible material.

Economy necessitates holding church salaried personnel to the very minimum. It is rare that even in large churches there is more than one handyman to stoke the furnace, clean the premises, etc. Watchmen's service is out of the question for all but the largest, most affluent churches.

Fire Destroyed the Fifty-One-Year-Old St. Mary's Catholic Church at North Grafton, Mass., with a Loss of $75,000

A further contributing factor is the lack of education and training given the church personnel on fire and its hazards. The result is that employes are usually incapable of handling an incipient fire or even of the procedure for calling the fire department.

The expanding social and other work of the church today calls for its greater use as a social or community center, or meeting place. During World War II, the church was the hub of much civic and social activity, such as waste paper and other war drives, and in civilian defense. These extra-curricular activities have resulted in greater use of kitchens, showing of motion pictures and adoption of radio and television, with consequent increased fire hazards.

Another factor, perhaps not appreciated, is location. Churches are found in greater numbers in residential areas, where municipal fire protection is generally weakest. Water supplies are limited; fire hydrants and fire alarm boxes are further apart. In many cases, church buildings are set well back from the street. Some are on eminences. Many are wholly or partially surrounded by trees or other plantings, to complicate fire fighting operations. There is only one attribute in such isolated locations; that is the reduction in fire exposure hazards.

The fire service itself is not blameless when it comes to contributing causes for church losses. Fire officers have been loath to visit and inspect houses of worship and religious properties in any official capacity. In many communities, first-due fire companies (as well as other units) are ignorant as to design, construction and occupancy hazards of churches in their areas. Some departments have gone out of their way to make friends of local pastors and clerics, but have not enlisted the cooperation of church authorities to study, and possibly correct fire hazards in the church. Few fire departments have seriously studied the possibilities of fires in such edifices and fewer still have conducted drills on the church properties in question. All-too-often the initiative for instituting better church fire safety has had to be taken by church authorities.

Wooden Churches Prove Ready Prey to Flames

Once under headway fire in these wooden religious structures usually results in complete loss. Here fire bursts through roof and steeple of 75-year-old Community Baptist Church, Whitefield, N. H. Note apparent absence of fire fighting operations.

The average church is a high one-story building; the smaller ones are of frame construction; others usually have brick or other form of masonry enclosing walls, and usually a slate roof on wooden sheathing supported on timber trusses. There is generally a steeple, an organ loft and altar. The floor above the cellar is wood, and wood is generally used in pews and benches, the interior trim and wainscoating. A wooden balcony is not uncommon, and often a wooden choir loft. To make the interior attractive, the walls, recesses and pipe channels are sometimes furred out to make a smooth interior, leaving in some places, concealed spaces of over a foot in depth. Elaborate decorating is sometimes undertaken.

Large concealed areas are found in attic or roof spaces and in the organ loft. The attic space is most important because of its inaccessibility for locating and controlling the fire that may be spreading through it.

Church construction, in brief, favors the fast spread of fire, once it gets a start. A typical church fire, starting in the basement, spreads through the concealed spaces, possibly via the heating pipe openings into the main auditorium as well as to the rooms in the rear of the pipe organ, and even to the organ gallery itself. It rises to the blind attic or hanging ceiling through partitions or hidden spaces, where it spreads in all directions, building up heat and gases and charging the structure with heavy smoke. Back drafts are not uncommon, as the large windows are broken. Strong air currents develop to intensify the fire.

As a rule, fire involving the blind attic attacks the roof trusses and beams and after a short time the roof falls, carrying the ceiling and fixtures with it. In some cases the supporting trusses, upon collapsing, force some of the masonry work outward to bring down walls and endanger fire fighers. Once the fire has progressed into the steeple it is almost impossible to save that structural detail.

The average church roof has large, unbroken areas and is sharply peaked. Of late years slate and composition materials have replaced the old flammable wood shingles, reducing the exposure hazard, but adding to the firemen's troubles. Falling slate is dangerous.

It is not uncommon to attach the parish house, or hall, and the rectory to the church proper, with connecting passageways and openings. In such cases, fire if not soon checked, will communicate to the connecting structures.

The church heating plant is usually located in the cellar or basement and as a rule is not cut off with fire-resistant construction, either horizontally or vertically, from the rest of the church. In the past, the common type of heating was by means of gravity type hot air systems. More modern structures have steam, utilizing oil burners or coal stokers. Chimney flues continue to give trouble however largely due to improper maintenance.

The organ loft is one of the most vulnerable features in the church structure. Almost wholly of wood, with many concealed spaces and vertical vents, fire, once under headway therein, is very difficult to control.

Operational Problems

Church design and construction; flammable material; large unstopped interior open areas and concealed spaces, together with late discovery and delayed alarm, call strikes on the fire department before it can get into operation.

With the blind attic or hanging ceiling fully involved, it is extremely hazardous for the men to operate within the auditorium of the church due to the possibility of the roof, ceiling and fixtures falling. In view of these conditions it is common practice, and necessary, to operate entirely from the outside of the building, once fire has hold on the structure. This naturally slows up work and results in marked ineffectiveness in controlling the fire. However, it is a question of safety to men rather than hazarding their lives in an endeavor to save property.

Where the fire is limited to the basement or organ loft on arrival of the department, fast work in locating and covering lanes of possible fire travel may prevent extension.

When a church of any size is heavily involved with fire, large streams are absolutely necessary. The high ceiling, large open areas of the auditorium and intense heat present, call for use of streams of great range and volume. It is the belief of some students of this type of fire that while even such large streams cannot penetrate the blind attic or other concealed spaces, they can kill the fire in the main auditorium of the church and leave the work of controlling the attic fire to outside lines operated from aerial ladders or adjoining structures. This latter factor, however, depends somewhat upon the type and construction of the roof and ability of firemen to open it effectively and safely. It has been found that modern metal aerial ladders are much more useful in these operations than the old type wooden aerial ladders.

Fire control operations may be complicated by the desire to prevent needless damage to costly stained glass windows, interior decorations, and religious furnishings. In some cases, windows can be swung open to permit venting the structure and the application of hose streams in the effort to cut off and confine the fire to one section of the structure. In others, turret streams may be directed into the church through front or rear windows. Where heavy streams are available, they may be operated from doorways or archways where men are afforded some protection from falling debris. They cannot hold these positions, though, if ventilation is not effected.

Manifestly, church fires call for ample manpower, rapid mobilization of fire forces and advancement of hose lines. In the case of volunteer forces, particularly where long stretches and possibly relaying operations may be involved, prompt summoning of aid is imperative.

The records indicate also the wisdom of painstaking overhauling after church fires. Not a few such fires which were believed extinguished, rekindled with consequent complete destruction of structures.

Recommendations

CONSTRUCTION — Church construction should conform more closely to approved building codes, with particular emphasis on fire stopping; adherence to approved heating and lighting specifications and installations and protection against lightning.

Neither cost nor beauty should be considered for some of the structural features such as roof supports, flooring, flues and roof. Boilers should be housed in enclosed room having at least one hour fire resistive partitions, with the ceiling above similarly protected and with standard fire door at the opening to the remainder of the cellar or basement. There should be automatic means of controlling temperature in the duct systems, breaching, etc., and also to guard against low water in the boiler. If oil fuel is burned, burner should be of approved type and means provided for automatically shutting off the supply of oil in case of flame extinguishment at the burner or abnormal supply of oil at that point.

Chimney should be built according to a suitable building code requirement, preferably with tile lined flues.

Wiring, likewise, should be in strict accordance with an approved code. Alterations and additions, whether temporary or permanent, should follow approved practices, with special attention to the misuse of flexible cord for line wire, and overfusing.

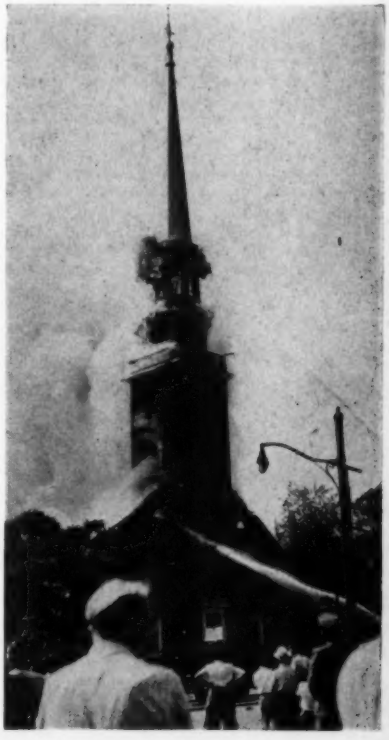
Vertical openings leading from basement to auditorium, or above, should be fire-stopped.

Use of combustibles in roofing and in steeple should be discouraged.

Doors between church and rectory or parish hall should be of approved fire resistant construction, self closing.

Preferably an approved motion picture projection booth should be installed

(*Continued on page* 458)



History Goes Up in Smoke

Fire, starting in building at rear of the 160-year-old Presbyterian Church, Elizabeth, N. J., quickly communicated to famous edifice which was built in 1786 to replace church burned by the British in 1780. Loss—practically total.

What Relationship Between Discipline and Training?

By CHIEF J. W. JUST*

WE WOULD like to begin this discourse by stressing two of our pet beliefs:

First: Discipline is the greatest single essential in any fire department—paid or volunteer.

Second: Without discipline, no organization is worthy of the name "Fire Department."

As a matter of fact, a so-called Fire Department without discipline cannot even be rated as an "organization." It does not even class as a "gang," for the "gang"—as the term is understood in this country today, *does* have a brand of discipline, and it is usually enforced with a vengeance. The undisciplined department comes nearer being a mere "mob"—it has neither discipline, direction or objective, and is always destructive.

There are various popular, and some rather unpopular, interpretations of discipline, most of which have to do with disciplinary measures, or punishment. The broadest and most satisfactory definition we have ever found is this:

"Discipline is education in conduct." And, that is precisely what it means when applied to the fire service. It applies to the conduct of the fireman in quarters, on the drill ground, at fires, and in his every contact with the citizens of the community.

Outside of the military service, we know of no place where discipline is as necessary as in the fire service, and the man who cannot subject himself to discipline is a dangerous man in any fire department. We do not believe that the blind, unreasoning, obedience to orders of a superior that is demanded in the military service is either necessary or advisable in the fire service. In most cases the officer in the military service obtains his rank through seniority or training, or both, while, as we all well know, in many fire departments it is frequently the case that neither intelligence, ability, training, or length of service, has very much to do with the selection of officers. Some are appointed through politics or pull, some just because they are "good fellows," and some because they could drag in a lot of dead wood voters on election night.

The intelligent fireman would be an utter fool to jeopardize his life, or the lives of his brother firemen in order to blindly obey the fantastic orders that may emanate from such incompetent leadership. The fact of the matter is, that where you find such leadership, or rather lack of leadership, discipline is of necessity an unknown and unwanted quantity.

No department is better than its leaders. Given competent officers, however, every single fireman should be willing to submerge personal beliefs, antagonisms, ambitions and jealousies for the good of the department as a whole. There must be a directing head, and his authority should be understood and respected. This is never the case in an undisciplined department.

One of the greatest single factors affecting both discipline and efficiency in many volunteer fire departments is the antiquated system of electing officers yearly. In the first place no man can develop into a competent fire officer in a year. In the second place, it is contrary to common sense, to expect a normal human being to develop or maintain much in the way of discipline, when he knows that at the end of his year someone else will take over and probably undo all the good he may have accomplished.

The modern college football squad will number from one hundred to one hundred twenty men, of which perhaps only thirty are used in games. Can you imagine what would happen if the hundred and twenty elected the coach, and, not being satisfied with that, elected all the coach's assistants? We have a feeling that the non-players would all be on the varsity team the following year. We think you will readily admit that this just doesn't make sense, yet isn't that exactly what the majority of our volunteer fire departments are doing? The non-working members are allowed to vote, not only for a Chief but for all of his assistants down to fourth assistant junior mechanic. If you could not have discipline or efficiency in a football team that way, why in the name of heaven should you expect it in a fire department? And, how can you make a change for the better with the scrubs all voting?

We know you cannot have adequate discipline or effective training in a department that elects a new batch of officers every year, but we don't know what can be done about it. We would at least make this plea. If you simply *must* elect a new Chief each year, at least give him a little break and let him select his own officer staff. Let him pick men who will work *with* and not *against* him; you *may* get a little discipline and a little training for a year at a time every once in a while. The President of the United States selects his own cabinet members.

The very complexity of the fireman's job demands discipline of the highest order. There are few other professions where a group of men are required to go into action so fast; where there are so many things to be done almost simultaneously; where so many actions have to be predicated on instant judgment; where, ofttimes, so much in lives and property depend on that judgment; where the public is so quick to criticize errors and so loath to give credit for good work done; where in so many cases the men are called upon to face such a conglomerate collection of hazards, both known and unknown, to life and limb; where the men face these hazards while taking severe physical and mental punishment, either for too little pay or, in the case of the volunteers, for no pay at all; and where, in spite of everything, the morale generally stays high through a keen sense of loyalty to the community and the department.

It is our opinion that 90% of the criticisms leveled at fire departments are the direct result of a lack of either discipline or training, or both. Certainly, fire-ground confusion, excitement, and fumbling is always the trade mark of the undisciplined department. While there is no fire officer who doesn't make mistakes, the mistakes made by a disciplined and trained department are those inevitable mistakes that will always be with us, due to the fallibility of necessary snap judgment.

Again, it should be clear to the thinking person, that even one man in a company who is not amenable to discipline is a menace to the lives of other firemen and to the public. The fireman who "knows better than his officers"; who goes his own merry and ofttimes destructive way; who "bulls" in without thinking and without guidance; in fact, who was born a "rugged individualist"—that man has no place in the fire department or in any other organization where teamwork is essential.

Without proper discipline a fireman can completely demoralize any public relations program of his department. He is constantly coming into contact with the citizens of his community under most trying circumstances. John Q. Public chases the department to fires. He drives his Packard or Model T in front of the apparatus to be sure he has a ring-side seat. He gets under foot. He advises the Chief. He drives over hose lines. He insists upon exploring his neighbor's house from basement to attic after a kitchen fire, when he wouldn't have thought of entering the building five minutes before the fire. He resists and resents every effort to get him to protect his family, his possessions, and his neighbors. He is against every request by the department for adequate tools and equipment with which to protect him.

We maintain that whether this same John Q. is your enemy or your friend depends upon the quality of personal and organization discipline to be found in the department. In the undisciplined department, John Q. will get what he is continually asking for—but it won't do the department any good. In a disciplined department, he will be diplomatically yet pretty adequately taken care of, and still think the firemen are pretty swell guys.

Now, just what is the actual relationship between discipline and training—if any? Mules, hogs and calves are about the least subject to discipline of animals

*Director, Fire Service Extension, University of Maryland, College Park, Md. A paper presented before the Fire Chiefs' Emergency Plan, of Westchester County, New York.

on the farm. Did you ever try to train a couple of them? Without discipline you can have no teamwork. Without teamwork what sort of training can you do? Conversely, how can you train a fireman in teamwork if he is that "born individualist?"

You simply cannot establish a training program worthy of the name, in your department, without a planned procedure, and that plan must work. But, you cannot have any sort of an orderly procedure in an undisciplined department. To learn anything of the fire fighting profession in this day and age takes time, effort and study. It requires patience and perseverance, and the very essence of patience and perseverance is self discipline. Practically every job in the fire service depends to a more or less degree upon group participation. The success of an operation generally depends upon the performance of many men, doing many things, either simultaneously or in a proper and orderly sequence. This holds true in much of the training in the use of apparatus and equipment. In a class of twelve men, one alone who is allergic to discipline can consume more of the Instructor's time than the other eleven. His failure to follow instructions, or appreciate the necessity for teamwork, can jeopardize the life and limb of the others. If, in such a case, the Instructor's time is of necessity largely spent on this one man, how long do you think it will be before the others lose interest in the whole business? Like the proverbial bad apple in the barrel, one undisciplined fireman will affect the discipline and morale of all the others.

Perhaps it might be well to clarify a point in connection with training that appears to be still foggy in the minds of some firemen. Some departments feel they have a training program when they go out once a week—or once a month—and perform ladder and hose evolutions. But is that training? From the fire service viewpoint, isn't it just drill work? Our book says drill is "training by means of frequent repetition." Therefore, the outside evolutions you do is training in one branch of the fire service only, that of the use of tools and equipment. It is the acquiring of manual dexterity and teamwork, through frequent repetition in the actual labor to be performed in an emergency on the fire-ground.

So much for the drill. Every thinking fireman knows that drill alone will not make a fireman. He knows that today a fireman, to be worthy of the name, must devote considerable time to classroom study and discussion. He must possess a little knowledge from every branch of engineering—electrical, civil, mechanical, chemical and architectural. He must have some knowledge gained from the medical profession. He should be familiar with the legal aspects of his profession. All right, suppose we add all these classroom subjects to our outside drill work, do we then have a complete training program? We think not. Under the definition of "Education," our dictionary has this to say about training:

"Training connotes not only the idea of knowledge received, but that of such knowledge *digested* through *application, drill,* and *discipline.*"

Now, to convert all this into two-bit English, we must draw two definite conclusions: First, that training consists of both drills *and* skull-practice, with the knowledge so gained actually applied *on the job,* plus the additional knowledge gained by this application and experience. Second, that discipline is an essential factor in all four of these steps in training: education, drills, application, and evaluation of results. We believe, also, that upon consideration, you will agree with us in our conviction that discipline is probably the most necessary when it comes to the actual application of our knowledge to fire-ground emergencies.

By constant repetition in drills, one may become familiar enough with the manual operations to perform them almost automatically. But, without disciplined teamwork, things can get fouled up and accidents may happen under stress of an emergency. The safe and effective use of theoretical and technical information on the fire-ground requires every phase of discipline. It calls for disciplined teamwork; for individual mental discipline; and for the quality of self-discipline that makes for prompt obedience to orders, and the elimination of all extraneous activities that would add confusion or delay to the prompt attainment of the immediate objectives.

There is yet another factor in this matter of discipline, of which we have long been aware but do not recall ever hearing mentioned. Or perhaps it is a figment of our imagination. There is an old saying that "where there is no sense there is no feeling." We would like to paraphrase it thus, "where there is no sense, there is no discipline." We firmly believe that any sensible man will understand and value the need for discipline in the fire service. He will understand the need for a single directing head. He will understand the need for teamwork and its value to him in the matter of personal safety. He will understand the necessity for adequate training, and he will understand the value of self-discipline in connection with public relations. Conversely, if a man is totally devoid of common sense, he will not understand or appreciate any of these things, and there should be no place for him in a service where so frequently a man must be entrusted with the safety of the lives and property of others.

Summarizing our views as expressed, you have probably decided by now that we hold the following beliefs:

1. That you cannot have a fire department without at least a reasonable degree of discipline; and the better the discipline the better the fire department is going to be, and therefore the higher it will rate in the community.

2. That a department with no discipline is merely a mob, devoid of leadership or purpose.

3. That the many hazards of a normally hazardous profession are definitely increased in proportion to the failure to provide and maintain discipline.

4. That the intelligence and efficiency of a department or its officers can be well judged by the degree of discipline maintained.

5. That the thinking man is not often found identified with a mob, at least not after he finds out what he has associated himself with.

6. That you cannot have efficiency, safety, or a training program worthy of the name, in an undisciplined department.

7. That, outside the possible field of romance, there never were any three words that covered as much important territory as—"Education in Conduct."

May Fire Losses Up Again

Monthly fire losses in the United States resumed their upward climb in May when fire destroyed $59,256,000 in property and resources, an increase of 4.8 per cent over May of last year, the National Board of Fire Underwriters announced.

The decrease in fire losses reported in April has broken the spiraling record for the fire time since March, 1944, but has not established a declining pattern, according to the estimated figures for May.

Losses for the last 12 months reached $705,973,000 or $13,338,000 higher than the all-time peak in fire waste and ravage of a single calendar year, $692,635,000, reached in 1947.

Fire destruction showed a seasonal decline of 7.0 per cent from April's figures, but continued at a record high of $2,183,000 a day for the first 152 days of 1948, bringing total losses for the five months to $331,774,000.

All fire loss figures are estimated under fire insurance policies on an incurred basis, allowing for unreported and uninsured losses.

Venice Vol's Cry Water, Water Everywhere!

If we may be pardoned the corny pun, here's a situation that made the vol's of Venice, Ill.! When fire destroyed three-quarters of a mile of an Illinois Railroad trestle, in Venice, firemen under Chief Elmer Carpenter, aided by help from Madison, Granite City and Granite City Army Engineer Depot, "went aquatic." Looks like this is the first fire hydrant to be located in a corn field—and a swampy one, at that!

How An Industrial Brigade Keeps Down Fire Losses

Extensive Improvements Inaugurated At Big Squibb Plant to Keep Pace With Works Expansion

By E. L. KINSEY
Chief of Fire Department

WORLD WAR II had a profound effect upon American industry and, concurrently, upon the means and methods of safeguarding industry from fire.

Many an American plant emerged from the war having greatly outgrown its original fire-protective measures. Still others found it advisable to re-evaluate their fire prevention and control techniques in the light of post-war needs. One such concern is E. R. Squibb & Sons, whose main plant is located at New Brunswick, N. J.

During the war years, the plant's expansion far outstripped the fire protection which, until August 2, 1944, consisted of a fire brigade of approximately twelve men who manned the usual factory hose reels, carrying 2½-inch hose, or depended upon hose supplies in the customary yard hose-houses.

By 1944 the plant covered nearly 92 acres and included fifty-three buildings of varying sizes, heights and construction, ranging from one to four stories, with materials ranging from wood frame to poured concrete and steel. These structures are used in the manufacture of chemicals, biologicals and antibiotics, not the type of occupancy least conducive to fire hazards.

Prior to that time, the fire brigade and fire protection had always been the responsibility of the Plant Master Mechanic. He was required to maintain all equipment and supply all the necessary men to efficiently operate the plant brigade.

As the first step in reorganization, management decided to relieve the Master Mechanic, or the Superintendent of Maintenance and Utilities as he is presently called, of this responsibility, and placed it in the Plant Protection Department. This change had the added advantage of releasing the Mechanical Department personnel, vitally needed in their respective trades, from the additional fire duty.

The next step was the appointment of a fire chief, in the person of E. L. Kinsey, who was given the task of surveying requirements and setting up the organization and regulations to meet these needs. To some extent the basic ideas adopted followed the New York City plan of plant fire brigade organization, with adjustments according to specific plant operation conditions.

One of Chief Kinsey's first acts was to prepare a physical inventory of all plant fire fighting equipment, its condition and distribution. This showed that the premises were equipped with a total of 287 fire extinguishers.

The majority of equipment was found in good condition, but hydrostatic tests disclosed some defects in extinguishers and these were repaired where advisable. Work was immediately started to better locate fire extinguishers with regard to the class of fire and type of hazard for which they were designed. Priority orders were placed to obtain a sufficient number of units to adequately protect the plant, on the basis of one unit per 2,500 square feet of area.

The next step called for the organization of the fire brigade on a plant-wide basis, the objective being to provide a fire fighting squad composed of approximately six men each, and an evacuation team of men and women, for every floor in every building. This was done by dividing the plant into thirteen units, each containing from one to nine buildings. A captain was appointed for each unit and he in turn was allowed as many lieutenants as he had buildings to protect.

Members of Squibb Fire Brigade Lined Up in Front of Their Pumper

Following the New York fire drill plan, the organization was further divided into searchers, male and female, and exit guards, depending upon the number of exits incorporated in a building. Squad monitors were appointed, depending upon the number of people involved, maintaining a squad at a maximum limit of twenty persons. An alternate was appointed for each job in this organization.

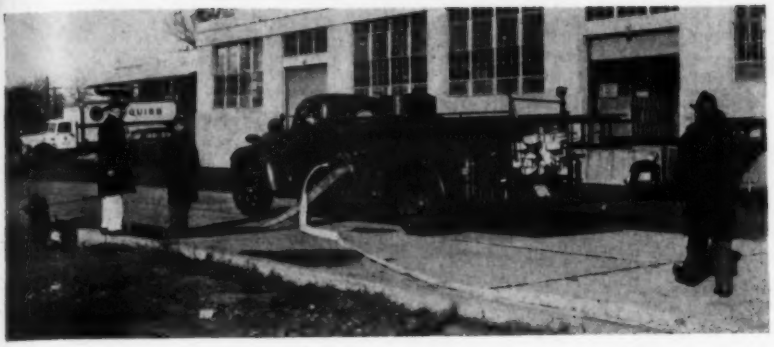
Mimeographed forms showing the unit number; buildings included in the respective units; names of captains, lieutenants, searchers, auxiliary fire brigade, exit guards, squad monitors and their alternates, were posted in conspicuous locations throughout the structures. Attached to this was a mimeographed listing of the duties of each person concerned.

To eliminate any confusion as to duties, personnel of each unit was assembled to discuss individual requirements and upon completion of the foregoing details, several practice drills were held to familiarize individual organization units with their stations and duties (location of corridor and outside doors, exits, primary and alternate routes to be followed, etc.). After the units were known to be familiar with their tasks, practice drills were held, involving all personnel on a floor. Employees were assigned to squads, introduced to their monitors and apprised of the fact that they would be required to follow the instructions of their squad monitor during fire drills or other emergencies requiring evacuation of the building.

Squad monitors were instructed in the procedure to be followed when normal routes of egress were discovered blocked by smoke or fire. In this event they took their directions from exit guards. In simulated emergency drills, personnel practiced evacuation procedures under such handicaps, leaving normal routes before reaching the exits and taking alternate routes until the operation was performed smoothly.

After having completed individual floor drills of a building, a practice drill involving all floors of the same structure was held, the purpose being to observe and correct any confusion that might be encountered when two or more evacuation lines from various floors converged in stairwells or connecting corridors.

The members of the beforementioned units, who are assigned to an auxiliary fire brigade on each floor, are charged with the responsibility of manning their fire stations, determining the location of the fire on their floor and attacking and extinguishing it as rapidly as possible.



Fire Brigade at Squibb Plant Is Given Frequent Drills in Laying Hose and Pump Operation

If the fire is of a magnitude beyond the capacity of a floor brigade to control it, one of the squad members is used as a messenger to advise fire brigades on every other floor within the building that more help is required at the scene of the fire. Brigades on other floors then take their equipment to the scene and operate under the direction of the Lieutenant in charge. While this is being undertaken an alarm is being transmitted to the plant fire brigade.

A further important step in the plan was the procurement of a self-propelled piece of fire apparatus. It was a triple combination piece on which was mounted a 500 GPM pump, a 150 gallon booster tank and a hose body to accommodate 1,200 feet of 2½-in. double jacketed hose.

The pumper arrived at the plant on July 3, 1946, was put on test pumping from draft and hydrant, and all working parts were checked. It was equipped with hose removed from the reels and the hose houses, which were abandoned.

First to be trained in operation of the new apparatus were the members of the plant guard force composed of about thirty men. They were thoroughly indoctrinated in the various phases of fire fighting, taught to drive and operate the pump, lay hose lines with the apparatus, estimate the number of feet of hose required to reach the scene of the fire, the use of forcible-entry tools and principles of ventilation pertaining to fire fighting.

Although after several months of training these men were considered proficient in handling fire emergencies during their tour of duty within the plant, it was decided that guards would be used only as a stop-gap measure until volunteers from other departments within the plant could be trained as a fire brigade. Men interested in this duty were sought and several located—men who had several years' experience as volunteer firemen of surrounding communities. These were used to form the nucleus of the new brigade. At present the brigade is composed of ten men on the day shift who drill weekly for a period of two hours after regular quitting time. These weekly drills have been held for a period of approximately one year and the men in the brigade have become very proficient in the use of apparatus, tools and appliances. Each man is equipped with the necessary protective clothing such as boots, helmets and turn-outs; each carries in the pocket of his turn-out coat one hose and ladder strap, a door wedge and mittens.

Another problem which had to be met was that of communications. In order to insure the accurate locating of a fire, cards were made up to be fitted on all telephones throughout the plant, showing the building number and the floor level on which a particular phone is located. All employees were advised by letter of the course to be followed in reporting a fire by phone. The operators were requested to relay the call to the Maintenance Division Office so that the whistle indicating fire could be sounded (this whistle, incidentally, is one that had been installed for air raid warnings during the war and is now used exclusively for fire alarms). The telephone operators were also requested to call the Plant Protection Office and give the location of the fire to the member of the Plant Protection Department on duty, whose responsibility it is to start the motor in the fire truck and remain there until the first member of the Fire Brigade arrives.

The following procedure is followed by the fire brigade: Upon the sounding of the alarm, men respond to the apparatus station, the first man arriving being considered the driver and motor pump operator. The second man arriving is considered hydrant man; third and fourth are pipemen. The apparatus responds to the alarm as soon as the driver and a hydrant man have reached it. The driver is instructed to pick up two additional men en route to the fire. After he has four men, no further stops are to be made. The remainder of the brigade responds on foot. In order to reduce confusion as to line of authority, in the absence of the regular captain or lieutenant, the motor pump operator has been designated as Officer in Charge and all members of the brigade carry out his orders until the arrival of a Captain or a Lieutenant or the Chief. This assures action being taken, without delay, to hold the fire in check.

To buttress the plant-wide organization, the chief of the volunteer department of the township in which the plant is located and the chief of the paid department of the city adjacent to the plant boundaries, were invited to visit and inspect the plant and to make suggestions and recommendations that would improve the efficiency of the fire protection organization. Both these men accepted the invitation and in the course of their visit a mutual agreement was drawn up between them to the effect that in the event of fire of serious proportions, an alarm would be transmitted to both departments simultaneously. The chief of the paid department agreed to send a full alarm assignment and a chief. The volunteer chief agreed to send two pieces of apparatus and as many men as could be assembled within a minimum period of reporting. It was further agreed that the direction of operations would be under the jurisdiction of the paid chief. The attitude of his department, it was explained, is based upon the obligation to protect the livelihood of a large number of people from the city who work in the plant.

Fire Prevention

Having developed the details of fire protection, emphasis was shifted to fire prevention. At the outset, this was considered a full-time job, requiring the cooperation of every person in the plant. Here the greatest asset proved to be the Plant Housekeeping Committee, composed of supervisors from various divisions and departments. Copies of this Committee's reports were checked by the fire brigade and all the items contained therein, which in any way would contribute to the start of a fire or its rapid advance, were discussed with the supervisors in charge of the area in which the condition existed, and a promise obtained from them that the conditions would be corrected.

Some natural reluctance to perform extra work required to accomplish this was encountered, but once started on any particular item, a daily follow-up was conducted, until correction of the conditions was accomplished. The principal flaws that came to light were: accumulation of rubbish in working areas; piling of stock above and between sprinkler lines in storerooms; storage of combustible material in stairwells and

(*Continued on page* 473)

Fire Fighters at Squibb Plant Are Trained in the Operation of Fire Streams. Here They Are Shown How to Employ a Fog Nozzle

MINE DETECTOR HELPS BRITISH FIRE SERVICE LOCATE HYDRANTS

Interesting Post-War Application of an Important Wartime Device*

AN interesting example of the employment of a war-time invention which played an important part in World War II and received considerable publicity, the mine detector, has come to light in Britain.

Through a correspondent connected with the British Fire Service, FIRE ENGINEERING is informed that mine detectors have been used with considerable success in locating flush fire hydrants that for various reasons have become "lost."

Possible application of this same product, and principle, to locating hydrants in American municipalities is limited to the few cities which employ the same type of flush hydrants generally used in the British Isles; or to finding concealed manhole or water hole covers. Nevertheless the peacetime use of this wartime product is worth describing for the record.

In England, flush-type hydrants are frequently located in roadways or grass borders where it is not uncommon for them to become covered over during tar spraying operations, while those situated on grass borders in more rural districts tend to become overgrown with verdure. To further complicate the problem, identification or indicator plates or signs, are not always present.

Under these conditions it is not unusual for the fire brigade to be seriously handicapped in its inability to quickly locate a "lost" hydrant.

The problem of locating these hidden sources of water for fire operations was raised prominently in a recent drive by the Leicester (Eng.) City Brigade to overhaul the hydrant system both in the city and in surrounding districts which it is understood are protected by the city's fire forces. So much time was being expended in locating lost hydrants that the use of mine detectors was considered by Chief Officer E. McKinnell, O.B.E., M.I. Fire E., who is the 1947-48 president of the Institute of Fire Engineers of Great Britain.

The use of mine detectors proved so successful that fourteen "missing" hydrants were found within four days. As a result, the mine detector is now a permanent piece of the Leicester Brigade's equipment.

In one instance, where a hydrant had not been found after a two-and-a-half hours' search, the detector resulted in its discovery in ten minutes. In another case, the hydrant had been removed but the indicator plate (see photo below right) had been left. The detector quickly determined that the plate was superfluous.

Editors of FIRE ENGINEERING have had reports of difficulty experienced by American firemen in locating not only flush hydrants but more particularly in finding identifying plates or covers for wells or other below-surface sources of water for fire fighting. These street level or adjacent covers are usually metal, and their location is indicated by a sign or post, or both. It has happened that both the flush covers, and the identifying marks have been covered by snow, making difficult the task of locating the opening to the supply.

*The editors are indebted to Mr. E. McKinnell, Chief Officer, Leicester Fire Department, Leicester, Eng., and to the editors of Fire Protection and Accident Protection Review, Benn Brothers, Ltd., London, Eng., for the material upon which this text is based.

Montgomery County, Md., Systematizes Mutual Aid

Montgomery County, Md., was one of the first of the State's counties to give serious thought to mutual aid. In 1942, efforts were made to bring the fire services of its communities into line and the ground work laid for the present system, but it was not until 1947 that serious efforts were made to establish mutual aid on a systematic and practical basis. On May 14, 1947, it was decided to prepare a complete running or assignment book for all communities in the county. This was done, and the perfected system, utilizing this book, went into operation June 14, 1948.

Fire departments affected by the plan are: Silver Spring, Takoma Park, Kensington, Cabin John, Glen Echo, Chevy Chase, Bethesda, Sandy Spring, Burtonville, Hillandale and Naval Ordinance. Approximately 46 pieces of mobile apparatus and ambulances are included in the system which, at present, is participated in by only the county's suburban companies. It is expected shortly to include rural fire companies in the plan.

The mutual aid book contains full instructions for operating the plan, lists all equipment, and designates the responses on first, second and additional alarms for each fire department in the schedule.

As with Westchester County's (N. Y.) Emergency Plan system, individual community units are given a county number by which they are dispatched when operating on mutual aid. Radio and the telephone are relied upon for communications. At present only Rockville, the County seat, has fire alarm boxes, the boxes set up in the running book are for the most part phantoms. As real boxes are installed, they will take on the phantom boxes' numbers.

The running book measures 14½ x 9 inches and contains 106 pages; each community is indicated by a different colored tab for ready reference. The pages are ruled off into seven columns, the first giving the box number and location; the second, the designation of alarm—1st to 4th;—the third column lists the responding departments on each alarm; the fourth tabulates the engines that respond from each department; the fifth lists the truck (ladders); the 6th itimizes the reserves, and the last column indicates the "fill-ins" or units that shift location. In general the method employed closely parallels the assignment cards of a large metropolitan fire departmet.

The task of working out of the details of the plan, which took thirteen months, was in the hands of a group of suburban fire chiefs of the area, working under the direction of Chief Joseph Giammatteo of Glen Echo. Chief Melvin E. McBride of Takoma Park supervised actual preparation of the book, which represented 200 hours labor of typing and assembling. The cost of

British Use Mine Detector to Find Hydrants

Left: Driving steel bar to confirm the find—after hydrant is located by detector. Right: The hydrant exposed (British flush-type ground hydrant), showing identification plate. Note: The officer in photo at the left is Deputy Chief Officer F. Courtie of Douglas, Isle of Man, Fire Brigade, who was visiting the Leicester Fire Brigade to study the latter's practices at the time of these tests.

this work is reported by Irving Johnson, former Chief of the Takoma Park Fire Department, to have amounted to $56. Each of the subscribing fire departments will pay $10 to defray the cost of the running books and any changes or additions that may subsequently become necessary.

A limited number of books were issued, one being assigned to each member department and one to each department chief. The neighboring County Central Alarm Board in Prince Georges' County was given a copy, as was Fire Alarm Headquarters, Washington, D. C.

Bugs Cause False Alarm

A pile of dead willow bugs was responsible for a fire alarm on the night of June 27 and as a result four companies of firemen of the Quincy, Ill., department nearly went bugs. For those who have never lived along the Mississippi river, an explanation of a willow bug should be given. The bugs have thin, fuzzy bodies with flimsy transparent wings. They live about 48 hours after birth, which means they must crowd a lot of fun into a short life.

Willow bugs are common along the river, and about twice a year the call of the neon from the business district urges them to have their final fling. They infest the district by the millions, fly around bright lights, then flutter to the pavement, dead and stacked in piles. Some die clinging to sides of buildings and windows.

Frequently, after an invasion, a bridge spanning the river between Quincy and Missouri must be swept clean so automobiles will not slide on the slippery mass and crash. It has occurred once or twice when trains have been halted until rails are swept clean so wheels could get traction.

On the night of June 27, a big swarm landed on the roof of the Selby Implement Company, two miles from the river and an equal distance from the downtown business district. Two electric spotlights on top of the firm's new modernistic structure of glass, stone and steel, had not been placed on brackets to illuminate a sign. They were left lying flat on the roof.

Thousands of bugs were piled around one of the powerful lights. Heat from the globe literally fried the stack, and smoke poured off the roof of the building. A passing motorist saw the smoke and transmitted an alarm to which Chief George Simon, John Heelan, first assistant, Lloyd Boden, second assistant Chief, three engine companies and the rescue squad responded.

The bodies of the flimsy bugs had burned. Firemen, scratching in the belief they had bugs, returned to quarters.—Earl Nolan.

Belated Appreciation

Belated but nonetheless grateful appreciation is extended to the following, for their cooperation in supplying illustrations used in the June story in Fire Engineering about the New Haven demonstration: Irving Johnson, Tacoma Park, Md., and Chief Joseph Giammatteo, Glen Echo, Md., who took the photographs; the District of Columbia Fire Department, which developed the negatives, and to Captain A. M. Grunwell, who forwarded the prints.

FIRE FIGHTERS TAKE COURSE IN RED CROSS HOME NURSING

Erie, Pa., Fire Department Members Institute an Innovation Which Has Been Called an "Unqualified Success"

THE patient jumped out of bed, into his shoes, and hurried out after the rest of the class. "We'll be back, Miss Devers. See you later!" The director of Nursing Service for the Erie Chapter, American Red Cross, sat down to await the return of her students.

118 City Firemen Take 12-Hour Course

For in Erie, Pennsylvania, where 118 city firemen have completed free, voluntary training in home care of the sick, fire-fighting comes first; Red Cross home nursing, second. When an alarm comes in, nobody needs a written excuse to get back in class. Not only is "teacher" possessed of an understanding heart, but the model sick-room, set up in the engine house, will be waiting for them when the crew has finished its job. This is their classroom for two hours daily for six consecutive days, including Sundays. On-duty schedules save time, and seem to suit all interested parties very well. Twenty-four crews of the city's nine engine houses testify to the success of the joint Red Cross-fire companies experiment in teaching simple nursing skills on-the-job. They have Red Cross home nursing certificates to prove it can be done, and big smiles to show it can be pleasantly accomplished.

From June 20, 1947 to April 15, 1948, Miss Rose Devers has moved from engine house to engine house, setting up model sickroom equipment, and teaching the more than 32 emergency care aids and techniques which the students say "make sense because they're practical."

Chief Lawrence P. Scully gave the Red Cross nurse permission to talk to the captains and crews throughout Erie, but left the final decision up to the men themselves. From beginning to end, the project was kept on a friendly, voluntary basis. It is interesting to note that this approach has resulted in acceptance of the training by all of the city's nine companies.

John North, secretary-treasurer of Local 293, expressed the appreciation of all the men by presenting Miss Devers with an honorary life membership in the International Association of Firefighters for her "very good will and sincere help." The Red Cross Nursing Service director returned the compliment by stating that the firefighters were among the most alert, enthusiastic, and co-operative students she has ever taught.

With the issuance of the 118th certificate attesting to successful completion of the training, a final blessing came from both Chief Scully and National American Red Cross headquarters in Washington. "A notable 'first' for Erie. Congratulations on an important job well done."

We believe the final expression of approval will come from the community already proud of an outstanding fire department and a Red Cross chapter always alert to meet the needs of fellow-citizens.

Red Cross Home Nursing Comes to the Engine Houses in Erie, Pa.

One hundred and eighteen members of this city's twenty-four crews from nine engine houses have completed twelve hours of free, voluntary on-duty training in simple nursing skills and emergency care of the sick and injured. Pictured above is Miss Rose Devers, Director of Nursing Service for the Erie Chapter, American Red Cross, demonstrating proper reading of the thermometer to her first fire fighters class—a crew from No. 3. This community-service project, the first of its kind in the nation, has been termed "an unqualified success" by both Red Cross and Fire Department Officials.

Laramie Fire Devastates Two Blocks

Described by Chief Blake Fanning as one of the worst in Laramie's history, fire on April 14, 1948, destroyed or damaged 29 stores over a two block area in the downtown area of that Wyoming city.

All buildings but one, oddly enough the old town fire department building in the block between Second and Third, and Garfield and Custer Streets, were destroyed. Ten other buildings, damaged by fire, smoke and water, were located in the block along Second, between Garfield and Custer, on the west side of Second; along the north side of Garfield and extending for half a block north on Second and Third. Between 35 and 40 persons living in apartments in the area were made homeless. Chief Fanning estimated the damage at slightly over $1,000,000.

The fire originated, from undisclosed cause, in the rear of a four-story brick Holliday general merchandise store about 2:00 A. M. This historic structure, one of the tallest in the city, was destroyed, the fire spreading on a stiff northeast wind to next-door garage and a motor car company across Second Street from which it involved and wrecked: a sheet metal works, shoe repair store, refrigeration shop, National Cash Register agency, gun shop, plumbing and heating company, a store, hotel, radio and battery services, lithograph concern, garage, radio service, refrigeration service, a furniture store, and a florist's shop. Approximately ten other establishments suffered varying damage.

Although additional aid was quickly called, it was nearly two hours before men and apparatus arriving from Cheyenne, Ft. Warren and Ft. Collins, Colo., were at the scene. Meanwhile all Laramie firemen, aided by volunteer troops from Ft. Warren, the Laramie unit of the National Guard, and University ROTC students, were pressed into service to help firefighters, patrol the area and prevent looting and control the crowds of spectators.

Flames Sweep Business Block at Laramie, Wyo.
A wall of the W. H. Holliday Merchandise Store in Laramie, Wyo, tumbles as fire roars through a business street, damaging at least 15 buildings. Fire Chief Blake Fanning estimated damage at more than a million dollars.

Chief Swanson Heads Eastern

Approximately 500 fire officers, their ladies and guests, from New York, New Jersey, Pennsylvania Maryland, Delaware and Washington, D. C., took part in the 1948 Conference of the Eastern Association of Fire Chiefs, June 17, 18 and 19, in Jamestown, N. Y. Convention headquarters was the Hotel Jamestown.

Eastern's president, Chief William Wandras of Kearney, N. J., called the meeting to order Thursday afternoon, June 17. The Invocation was delivered by Rev. George H. Tolley, pastor First Baptist Church, following which came the pledge of allegiance to the flag and the introduction of city officials by the host, Chief Rudolph H. Swanson.

Mayor Samuel A. Stroth welcomed the delegates and extolled the virtues of Jamestown. His greetings were responded to by Chief Ellis Wagner, York, Pa.

The memorial services for the departed members were conducted by Rev. Patrick F. Tobin, pastor SS. Peter & Paul's Church, Jamestown, the roll call of the deceased being read by Secretary Clark.

Following reports of the secretary and treasurer, which showed the Association to be in excellent condition in membership, and finances, Mr. Hugh Walker, Manager Motor Fire Apparatus Sales Engineering, American LaFrance Foamite Corporation, delivered an enlightening paper on "Motor Dynamics."

Thursday evening, the delegates and friends were the guests of the Morton Club at a Smorgasbord and dance, at the Viking Temple.

Friday's sessions were devoted to business with addresses by J. W. Pennisten, Special Agent, National Board of Fire Underwriters on "Arson Fires in Western New York"; Chief Roi B. Woolley, whose topic was "Fire Protection is Big Business Today," and Charles C. McCloskey, Jr., Resident Agent, F. B. I. whose topic was "The Facilities of the F. B. I. Laboratory."

The afternoon speakers were: Chief Thomas Coates, Director of Fire Mobilization, State of New York, who explained the new statewide training and mutual aid program; Herbert A. Friede, Superintendent of Communications, Washington, D. C., whose subject was "Communications Progress in the Fire Service and its Application to the Needs of the Service." Mr. James Jagger, general manager, International Association of Fire Chiefs, spoke on "The International Looks Ahead."

Highlight of the evening's banquet was the presentation of many beautiful and elaborate prizes to members of the Conference.

About thirty manufacturers and representatives exhibited the latest appli-

Prize Winning Fire Photo of $100,000 Elevator Fire
The above photo of the burning of the Clark Mills, Inc., Colby, Wis., on April 5, 1948, was taken by Ken Olstonski of the Marshfield, Wis., *News-Herald*. It won him first place among part-time news photographers at the Inland Daily Press Association Conference in Chicago. The blaze, which started in the cupola of the 87-foot structure, destroyed 15,000 bushels of grain and was visible at Unity, Wis., five miles away. Volunteer firemen from Colby, and nearby Abbotsford and Spencer fought the fire for two hours, handicapped by low water and lack of aerial ladders. They saved a large warehouse and thee offices. Cause blamed on overheated motor. (Rod Porter, Chief, Marshfield Fire Department.)

ances and extinguishing agents at the Hotel Jamestown.

Special entertainment was provided the ladies of the Conference in the form of trips through the local Furniture Exposition Building, a boat ride on beautiful Lake Chatauqua, complimentary attendance at motion picture theatres and at the open house reception, Hotel Jamestown, Wednesday evening.

Officers elected for the coming year were: president, Chief Rudolph H. Swanson, Jamestown, N. Y.; first vice-president Herbert A. Friede, Washington, D. C.; second vice-president Chief Joseph Giammatteo, of Glen Echo, Md.; treasurer, Former Chief George L. Mitchell, East Orange, N. J.; secretary, Former Chief Charles E. Clark, Wayne, Pa.; Directors, Chiefs Henry Drake, Clinton Corners, N. Y.; Rudolph Farley, Atlantic City, N. J.; L. Ellis Wagner, York, Pa.; Former Chief Wm. J. Lutz, Wilmington, Del.; Chief Howard Travers, Baltimore, Md., and R. C. Roberts, Fire Marshal, District of Columbia Fire Department, Washington, D. C.

Oakland Gets Fireboat

The City of Oakland, Calif., has its first, and only fireboat, acquired from the Navy by the Port of Oakland. The boat went into commission May 28, 1948, following indoctrination of the city's crews that man the vessel.

The new fireboat "Hoga" is berthed at the foot of Broadway and is a standard steel Navy-type fireboat, measuring 199 ft. length, 27½ ft. beam and 11½ ft. draft. It is capable of 15 knots with two 650 H.P. diesel engines. It has two 2,000 GPM pumps with four monitors and 12 hose outlets. It is reported that plans will be worked out to increase the 4,000 GPM pumping capacity to 10,000 GPM. The boat was built on the Atlantic Coast in 1940 and commissioned in 1941. Navy officers report it took part in quelling the fires during the Pearl Harbor attack.

At present the fireboat is being maintained and operated in a co-operative arrangement between the city and the Port of Oakland, whereby the port commissioners agreed to prepare a berth for the vessel and a house to accommodate the crew, as well as to carry out the alterations to increase the pumping capacity. In addition, the board defrays the salaries of the marine crew of the vessel comprising pilot, relief pilot, engineer and relief engineer, and to defray cost of maintenance and for complete marine coverage.

The city on the other hand, will defray the cost of the fire department crew to work the vessel, to comprise one fire captain, a lieutenant and ten hosemen with vacations and relief, and also pay for fuel and lubrication.

Cover Picture

This month's cover illustration is a good lesson in the importance of having ample water supplies for fire protection available. Fire starting from an as yet undisclosed cause in Higginbotham Bros. corner store (see picture) Rising Sun, Texas, raged through entire business block of the little town of 1,100 population. When the community water supply petered out, tank trucks were used to haul water from the nearest creek until additional fire fighting equipment arrived from neighboring towns.

Minneapolis Acquires 2,000-Gallon Pumpers

The Minneapolis (Minn.) Fire Department has increased its effective striking power by the addition of two new Mack 2,000 GPM pumpers.

The two units, which have been placed in service at Stations 6 and 10 in the city's "loop" district, following their acceptance tests, look little different outwardly from the standard Mack 1,000 GPM type units.

The acceptance test on both units was run on June 4th, last. According to Fire Chief George S. Lockhart of Minneapolis, in a report to this journal, 2,015 gallons of water per minute were delivered at 123 PSI net pump pressure; 1,023 gallons per minute at 205 PSI net pump pressure, and 738 gallons per minute at 251 PSI net pump pressure.

On a supplementary test, 2,238 gallons of water per minute were delivered at 121 PSI net pump pressure; 1,681 gallons at 152 PSI and 996 gallons at 253 PSI.

As is shown in the overall illustration of the tests, lines from the pumpers were siamesed into a turret truck to deliver a powerful stream. In the test pictured, 1,780 gallons per minute were delivered through a 2½ in. tip with nozzle pressure at 140 PSI. Pump pressure was 180 PSI gross or 150 PSI net. Hydrant residual pressure was 30 lbs; static pressure was 60 lbs.

As will be noticed, double suctions are used to draft water when it is desired to get maximum delivery from the units.

Interested Group Watches Tests of New Minneapolis Pumpers

Shown here are, left to right: Alderman Syl Blosky, Chairman of the Fire Committee, Minneapolis; George S. Lockhart, Chief, Minneapolis Fire Department; Chief Swanson of Rockford, Ill.; Chief Ed. Novack, newly appointed Chief of the St. Paul, Minn., Fire Department; Mr. Moore, Mack Motor Truck representative from Chicago; Mr. James, Mack company Chief Engineer, and Fred Beardslee, Mack Vice-President, in charge of the Fire Apparatus Division.

Minneapolis Tests New Mack 2,000 GPM Pumper

Scene at training ground of the Minneapolis (Minn.) Fire Department as latest acquisiton (foreground) undergoes acceptance test. Turret stream from apparatus in background is delivering 1780 GPM at 150 PSI net pump pressure. Note double suctions.

The WATCH DESK

Overhauling the firemanic news of the day

by ROBERT WOOLLEY

Really "Hot" Money

Officials of the Franklin Society for Home Building and Savings, 217 Broadway, New York City, discovered that the new Benjamin Franklin half dollar issued only three days before by the U.S. Mint, can become "too hot to handle."

A combination of the sun's rays and a strong magnifying glass—a type designed to magnify a television screen—in front of one of the new coins, mounted on a board covered with black velveteen, all a part of a display in the Society's window, caused the trouble. The rays of Old Sol focussed through the glass ignited the display board's covering and before long the Society's window showing was afire.

A passerby fortunately spotted the blaze, and notified the building superintendent. Some other excited person pulled a fire alarm box—and the blaze was quickly snuffed out by the Brothers.

Deponent saith not what became of the "hot money."

* * *

New Version of Old Gag

In Philadelphia, one James Fitzgerald awoke from slumber, shook his head and blinked the sleep from his eyes. The strains of "Four Leaf Clover" filled his bedroom at 2:30 in the morning. The music was coming from the tap-room, below his second-story apartment.

Music may "sooth the savage breast" but not with Fitzgerald. The whole thing was strictly "out of tune." Music just had no business tuning in at that hour from the taproom—which was supposed to be closed. Therefore Fitzgerald, now wide awake, investigated.

Stumbling down stairs, he found smoke pouring from the taproom—the while the juke box poured forth "Four Leaf Clover." Without more ado, Fitz' summoned firemen who spent an hour getting at and extinguishing the fire in the short-circuited juke box, a short circuit that had set the music-foundry in operation.

"I've seen cases where a short-circuited wiring in an auto touched off its own horn, calling help," said a fireman, "but this is the first time I ever knew of a juke box tune in—and turn in its own alarm."

* * *

Hot Off the Tape

Burglars who forced entrance to the office building of a lumber concern in Eltingville, S.I., N.Y., inadvertently set fire to the structure, burning it and a quantity of lumber, a storage shed and a truck. . . . In Dexter, Me., a young mother dropped two children out a third story window, then leaped herself, to escape flames sweeping their 15-family wooden apartment house. Children were caught unhurt by a man; the mother was critically injured. . . . Atlantic City, N. J., firemen helped a Chinese laundry when fire swept Charlie Goon's shop. They took smouldering bundles of wash from the shop and gave 'em the "damp-dry" treatment at an open hydrant. . . . Mrs. Mary Coaboa of Haverhill, Mass., dropped her false teeth out the window of her home. They landed out of reach on the roof of an adjacent building. So Mrs. Coaboa called firemen who retrieved the misplaced crunchers (Thanks Irving Johnson). . . . New York's Fire Commissioner Frank Quayle has announced the addition of a new Rescue Company—No. 5—to the City's Rescue units. It will be located with Ladder 78 at 14 Brighton Ave., New Brighton, S. I. . . . Keene, N. H., fire-fighters claim they have a pet rat which has taken its cue from watching them slide the pole, and it—the rodent—slides down a water pipe between the first floor and basement as smartly as ever a smoke-eater shot the brass rod. . . . An automobile drove through the doors of Engine 92, the Bronx, and stuck there. Rescue 3 was called to extricate it. . . . A 30-year-old Indianapolis mother is said to have committed suicide in a cornfield by lighting her kerosene-drenched clothing. . . . A 17-year-old high school student was held in Weston, Mass., on arson charges for setting a $650,000 fire that destroyed the Weston High School. He confessed he did it "so he wouldn't have to go to school" and "for excitement." . . . John J. Walz, of Engine 56, New York Fire Department singlehanded caught a 6-foot, 180-lb. bandit after the latter had held up a laundry. . . . The age old query that never has been answered—What's in a name?—pops up again as Tom Magner of Bridgeport informs us that the name of the fire marshal in West Haven, Conn., is Daniel Hazard.

* * *

Orchids—and Lilies to This Little Spartan

In Suncook, N. H., six-year-old Henry Beard, son of Ralph Beard, alone at his home, attempted to fry an egg, while garbed in his night clothes. His garment took fire but, although suffering tortures, young Henry had the presence of mind to roll in a blanket and extinguish the flames. The burned blanket was later found in the house. Then he dressed, shut his pet dog in the barn and walked a quarter of a mile for help to the office of Dr. B. L. Freeman.

Despite the emergency treatment for second and third-degree burns given at the doctor's office and Concord hospital, the boy died.

Dr. Freeman described the child's efforts as "superhuman."

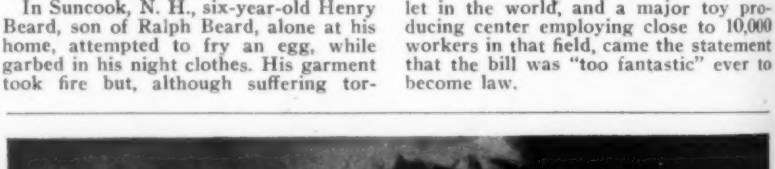
* * *

Toy Producers Protest Flammability Bill

The toy industry has vigorously protested to Governor Thomas E. Dewey and members of the New York State Legislature against the bill introduced into the legislature which would have the effect of banning the production, sale or use or possession of all toys except those made entirely of metal or other non-inflammable materials.

The bill, introduced during last spring's American Toy Fair, by Senator Frederick Hammer, Rep. of Far Rockaway, N. Y., would make illegal in the state the sale or possession of inflammable toys or any other objects of amusement intended for children which are composed in whole or in part of any inflammable material. While the bill does not specifically forbid their production, the ban on possession was seen as legally ruling out output in the state for out-of-state use. The bill would not only penalize producers or stores making, possessing or attempting to sell toys, such as dolls, stuffed animals, games, books, wooden, paper and cloth toys, many plastics, chemical toys and a wide lot of other items, but by implication, would hold parents liable for the possession or use of such toys by their children.

The bill is said to have taken members of the toy industry by surprise. From New York, largest retail toy outlet in the world, and a major toy producing center employing close to 10,000 workers in that field, came the statement that the bill was "too fantastic" ever to become law.



Fire Doesn't Believe in Signs!

All San Leandro, Cal., firemen, aided by forces of surrounding communities, struggled for three hours to confine a serious blaze that threatened business area and destroyed a vacant hotel and hardware store, with loss set at $350,000.

Short Cuts and Gadgets

TO POST 'EM ON THE FIRE PHONE

It is an accepted fact that the majority of fire alarms are sent over the telephone. In many areas that instrument is the only means of fire alarm communications. Notwithstanding this fact, it is one of the most unreliable facilities, for a number of reasons, which need not be reviewed here.

One handicap to the use of the telephone is so common, however, that it has received universal attention of fire

officers and fire communications officials. That is the tendency on the part of persons desiring to transmit an alarm of fire or otherwise communicate with the fire department, to forget the latter's telephone number, if they ever knew it.

Many and varied methods have been employed, particularly in the volunteer fire service, to familiarize telephone users with the call numbers of the respective fire departments. Some departments use cards of varying sizes to be mounted or hung near the telephones. Others use decalcomania or tags mounted on the instruments or near them. Some employ both. Others have found still another remedy in the form of a small sticker or label, which is made a permanent part of the instrument.

FIRE ENGINEERING has received a number of suggested "short cuts" to help correct this difficultv. The first, used by the departments of Montgomery County, Md., and submitted by correspondent Irving Johnson of the Glen Echo Fire Department consists of a small colored sticker, measuring about ¾ by 1-inch which is affixed to the front of the telephone under the dial (see illustration).

A somewhat similar idea is used in Comstock Fire District No. 1, Comstock, Mich., where, owing to the lack of fire alarm boxes and the complications of party lines, the telephone as a major factor in fire communications is even more important than in Montgomery County. Chief Harry N. Smith, head of the Comstock Fire District No. 1 fire fighters has this to say:

"I came upon an article in your June issue relative to keeping people in your district posted as to the telephone number of the fire department. We have had many delayed alarms in the past caused by people having to go to neighbors' houses to telephone in the alarms, and finding no telephone book from which to get the right numbers.

"The members club of this department, through my suggestion, had fire phone numbers made on small stickers which are put on the front of the phones beneath the telephone dials. This way they cannot get lost or misplaced, and people will soon come to know the number by heart. These are put on every phone in our township. The fee is very small for printing the stickers and we have had very good success in all since installing them.

"As to delayed alarms due to busy phones, I suggest an investigation of these conditions be made where trouble is encountered and a report sent to the local telephone company. I have cleared three of such cases recently."

In concluding, the editors would add this postscript: readers are urged to submit all possible information concerning delayed alarms arising from misuse of, or inability to gain the use of the telephone in transmitting alarms of fire or other emergencies.

* * *

RED CIRCLES TO FACILITATE RESCUE

The red circle will show the way in and out of Syracuse's burning buildings. Fire Chief William J. Connelly has announced that red circles will be painted shortly on upper-floor windows of factories, warehouses and other business places.

According to press accounts furnished Fire Engineering by James R. Jackson, Oswego, N. Y., the circle will indicate the window opens into an aisle or passageway which will give firemen easy access to fight flames or effect rescues.

Persons trapped inside a particular building will know that any window bearing the red circle will be the first place from which they will be rescued.

The details of painting the red circles on windows, Chief Connelly said, are in the hands of Lieut. John Dacey of the fire prevention bureau. Each circle will measure eight or more inches in diameter, depending upon the size of the window.

Employers and employes alike, the reports say, have agreed to keep free of obstructions all aisles leading to red circled windows.

This is a further development of a "short cut" previously printed in FIRE ENGINEERING. Congratulations to Chief Connelly and his co-workers, and thanks to Brother Jackson.

* * *

The Old Timer Says—

In spite of the fact that it has always been considered good practice for every company—particularly ladder units, to carry gas shut-off wrenches or keys on the apparatus, there's an awful lot of departments that don't do it. Recently a pretty serious explosion and injuries to several persons mighta been prevented if the first-arriving company had been so equipped.

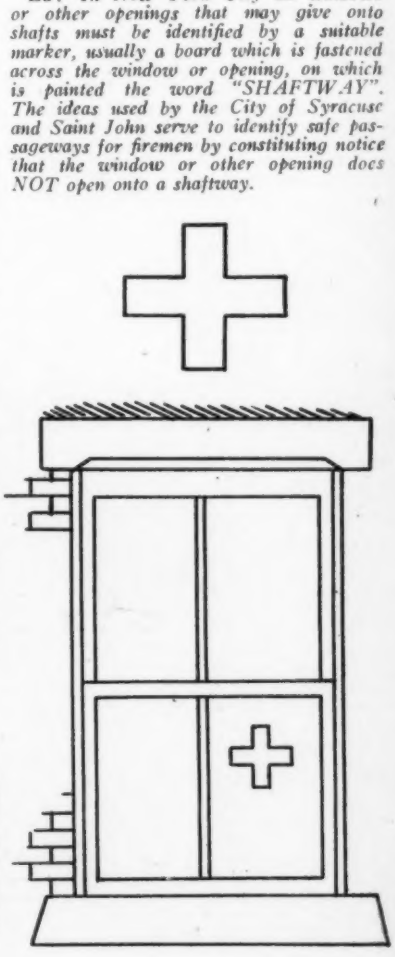
ST. JOHN, N. B., USES WHITE CROSS

The idea of identifying windows and passageways to facilitate fire department operations has been employed in New Brunswick for a number of years with reported success.

In 1946, Donald M. Baird, Fredericton, N. B., wrote: "The Saint John, N. B., Fire Department, with the cooperation of building owners, recently inaugurated this system (marking windows) as an aid to operations at fires in mercantile buildings containing large stocks of merchandise. Certain windows on each floor are selected for aisles between stockpiles. No obstructions are allowed in these aisles between the window and the interior of the building. A white cross about two feet high is then painted on the outside wall below the window. A small cross on one pane of the window serves as a marker for workers on the inside. Thus the fire department can tell at a glance where to raise their ladders or operate heavy streams without hindrance due to large stockpiles."

The Saint John's idea of installing identification marks below the windows as well as on the windows has an added advantage of providing identification for windows or apertures where and when the window markings may be obscured due to smoke or missing because the frame or glass was blown out.

Ed: In New York City all windows or other openings that may give onto shafts must be identified by a suitable marker, usually a board which is fastened across the window or opening, on which is painted the word "SHAFTWAY". The ideas used by the City of Syracuse and Saint John serve to identify safe passageways for firemen by constituting notice that the window or other opening does NOT open onto a shaftway.



Manufacturers' Announcements

Fire Alarm System in Argentine Grain Elevators

The Puerto Quequen and Rosario (Sud) grain elevators form part of a plan prepared by the Argentine Government to erect fourteen grain elevators, to be located at the principal Argentine river and sea ports, one of which, the Buenos Aires New Port Grain elevator, now nearing completion, is believed to be the largest in the world, it having a storage capacity of 148,500 tons, a shipping gallery of 5 lines each capable of handling 600 tons of grain per hour—the estimated loading capacity per 8-hour working day is 17,000 tons.

Rosario, Argentina, Grain Elevator, One of Fourteen Planned by That Country

The Argentine grain elevators are planned to include the most modern equipment and methods of grain handling and storage, including grain cleaning and drying equipment, and are intended primarily for the export of cereals, received from railway wagons or trucks in bags or in bulk, stored, and later transferred to ships. Loading and unloading operations are by means of belt and bucket conveyors and are controlled by means of light signals supplied and installed by the Anglo-Argentine Electric Company.

Four of the grain elevators have been completed and placed in operation. These are located at Puerto Quequen and Ingeniero White on the Atlantic Coast and Rosario (Sud) and Villa Constitucion on the River Parana. The machinery for the elevators was designed and supplied by Henry Simon, Ltd., of England.

The fire alarm systems were planned and supplied by The Gamewell Company, Newton, Massachusetts, and installed by their Argentine representatives, Agar, Cross & Co., Ltd., of London, New York and Buenos Aires.

The explosion hazard, due to the presence of highly explosive grain dust, common to all grain elevators, necessitated the use of explosion-proof equipment in all areas in which that hazard exists.

The basic fire alarm system for each elevator consists (1) of a Gamewell-Vitaguard control cabinet including motor-wound alarm recording devices, a 48 volt Gamewell-Exide battery, and testing equipment including means for receiving test signals from master fire alarm boxes without causing an operation of the alarm equipment; (2) alarm initiating equipment consisting of Edison Type SF-4R hermetically sealed automatic fire detectors and Gamewell auxiliary fire alarm boxes, manually operative, electrically connected to explosion-proof Gamewell-Three-Fold type non-interfering and successive fire alarm boxes for indicating the zone of fire origin; (3) alarm equipment consisting of a Diaphone horn operated by compressed air for general alarm purposes; Electro-mechanical gongs, Gamewell-Turtle type, explosion-proof, for local alarm purposes are used throughout the interior of the elevators except where machinery noises necessitate the use of motor-driven electric horns controlled from the fire alarm circuit by uniform time relays; and (4) a Guard House alarm and recording equipment consisting of an annunciator responsive to operations of the master fire alarm boxes, a vibrating gong, and a fire alarm register, Gamewell-Excelsior type.

Waterloo Gets New Pumper for Rural Work

The City of Waterloo, Iowa, is justly proud of its fire department of which Ray Tiller is Chief. Chief Tiller, former president of the International Association of Fire Chiefs and a practical fire fighter from every standpoint, has definite ideas about fire apparatus.

Waterloo's department protects a 27 square mile area outside the city as well as the City itself. Much of that 27 square miles is rugged country. In the spring and fall of the year firemen have to negotiate muddy roads; during the winter at times they have to fight through deep snows. Fire apparatus must take punishment in operating in this suburban area.

When Chief Tiller ordered a new pumper to be used primarily in this out-of-city protection, one of the first requisites was that it be built with all-wheel drive, with optional drive on the front wheels. That is, the truck must be able to be operated as a conventional rear wheel drive or, at the option of the operator, be suitable to also drive with all four wheels.

The new American LaFrance-Foamite unit recently delivered to Waterloo, embodies these features and others. It has a 150 in. wheelbase and has a turning radius of 25 ft. to the right or left. Tires are 11.00-20 all around to meet Chief Tiller's desire for better operation, as the rear tires would be tracking with the front tires and in soft ground it was believed the going would be better with tires large enough to provide good flotation for soft ground with pressure running approximately 37 PSI of contact area.

The pump on this unit is 750 GPM Class A rating, and the water tank will carry 500 gallons of water, an important feature where water must be taken to the fire as is so often true in out-of-town operations.

The unit carries 1200 ft. of 2½-in hose and 500 ft. of 1½-inch hose. In addition, the truck incorporates an aluminum ladder arrangement that Chief Tiller developed for this rural service work. The ladder is for general dimensions the same as a 33 ft. 3-section Duo Safety aluminum ladder. By a special arrangement of the locks, however, the 3rd or top section, is quickly removed and is provided with roof hooks so that in the one ladder Chief Tiller has a combination of a 24-ft. two-piece extension and a 14-ft. roof ladder. By putting the two ladders together he has a 35 ft. 3-section extension.

The truck is equipped with a 204 HP motor, providing ample power for handling in mud and snow and good acceleration and road ability under all conditions. The canopy-type cab seats five men and is provided with a heater and defroster.

Waterloo's New Rural Fire Truck

New High Pressure Hose Coupling

The Bar-Way Manufacturing Company of Stamford, Conn., announces production of a streamlined high pressure hose coupling that will withstand pressures of more than 3,000 lbs. per square inch with a pull of over 500 lbs.

It is available in one-half inch, three-quarter inch and one-inch inside diameter, with any commonly used thread.

(Continued on page 478)

For Practical Discussion of Current Fire Department and Fire Management Problems

WHAT UNIFORMS FOR HOUSE WATCH — AND WHO SUPPLIES THEM?

FIRE CHIEFS participating in this Round Table were pretty evenly divided on the subject of special wearing apparel for the house watch. A majority of municipal fire departments, however, insist that the house watchman wear something better than fatigue, or work garments. It is a general custom to differentiate between "regulation" or "dress" uniform and "duty," "work" or "fatigue" uniforms.

Outside the station, personnel are expected to wear the full regulation uniform. On duty, however, various exceptions are made for the comfort of the men. These exceptions may vary according to climate; where it is very warm, men are permitted to wear less and lighter clothing during duty hours.

A few departments require the house watchman to wear the regulation uniform coat or tunic and cap, regardless of weather. A majority, however, permit removal of the coat in summertime, but require the cap to be worn, with cap badge, and the coat badge transferred to the shirt. Some departments permit even more leeway and the house watchman is allowed to wear the same work or fatigue clothing that is worn by other company personnel while on duty inside the station.

Only in a few cases does the house watchman wear a special watch badge to designate that person is the watch officer of the day.

A majority of departments either make some allowance for the men's uniforms and/or work clothing, or furnish them entirely to personnel. Some departments supply only such garments as turnouts, boots and helmets for operations such as fire fighting, leaving it to the personnel to purchase their own regulation uniforms.

Readers are invited to send in their comments on this subject, which will be continued in the August issue. Address communications to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Question

Lawrence P. Scully, Chief, Erie, Pa.: Members of our department do wear other than their regulation uniform on house or watch duty. This consists of a khaki colored one piece Lee overall. No special insignia is worn by the man on watch.

The men furnish their own uniforms and also their own rubber goods.

T. G. Lennon, Chief, Saskatoon, Sask.: Members of the department are now supplied with two blue work shirts and two pairs of denim pants for all house station duties.

This keeps the personnel in a smart and neat appearance, and most important of all, it affords a large saving on wear and tear of their standard blue serge street dress uniforms.

The member doing floor watch is dressed in full street uniform, to meet the public and visitors at all times.

The department supplies all uniforms plus complete fire fighting clothing and rubber boots.

Members supply their own street shoes, shirts and ties.

T. P. Treadwell, Chief, Fort Collins, Colo.: Members of the department on duty in the station wear a fatigue uniform, consisting of blue shirt and pants which they purchase.

There is no special insignia worn by the man on watch. We have a personnel board with each man's name on it. When the pin on the board is in front of a man's name, he is the watchman.

The department furnishes complete dress uniforms, shirts, bunkers, helmets, linens and all other necessary equipment.

J. M. Munger, Chief, Helena, Mont.: The men wear work uniforms while on duty in quarters. The only time they wear full dress uniforms, is on special occasions such as funerals, parades, etc.

The members of the department furnish their own dress uniforms. The City Council furnishes the night uniforms, coats and helmets, but not the pants or boots.

L. B. Barnum, Chief, Phoenix, Ariz.: When on regular house duty, the members of our department are permitted to wear frisco jeans, black shoes and regulation shirts, plus a uniform cap, which bears no insignia other than his company number. For special details the men wear the regulation uniform consisting of coat, trousers, cap, uniform shirt and black shoes. The man on house watch has no special insignia.

The members of our department furnish their own uniforms.

John O'Connell, Chief, Butte, Mont.: All members wear a navy blue fatigue uniform on shift. The men furnish their own uniforms, with the exception of caps which the city furnishes.

L. P. Feaster, Chief, Lincoln, Neb.: We do not have any house watch duty for members of the Lincoln Fire Department, but we do have two firemen (telephone operator and senior captain) that are ready to answer the switchboard at all times. These men wear the regulation uniform which consists of blue serge trousers, light blue shirts, black four-in-hand ties and black shoes.

Members of the department furnish their own uniforms at the present time.

Guy Stadler, Captain, Bureau of Fire, Portland, Ore.: The appointed members of the Bureau of Fire are allowed $50.00 per year for service uniforms and fire fighting apparel. The only requirement for the man on watch is that he be in service uniform.

Chief Grenfell has requested an appropriation be made in the budget for the fiscal year starting July 1, 1948, allowing $50.00 to each appointed man to apply on the purchase of dress uniforms. To date the members have purchased their own. He feels that by this method, a better uniformed appearance can be required.

James Thompson, Jr., Chief, Irvington, N. J.: Members on watch (not officers) do wear regulation work uniforms plus cap and breast badge marked "House Watch." These uniforms consist of black shoes, khaki pants and grey work shirts.

All members furnish their uniforms in this department.

E. L. Smith, Drill Master, Salem, Ore.: Our men do not set watch. Our alarms are all handled by the radio room, and relayed to us on a public address system. All men on duty wear regulation trousers, shirts, ties and shoes. Full uniforms are only worn on special occasions and special orders.

The men of the department buy their own uniforms and receive a $5.00 per month clothing allowance from the city.

The officers of the department purchase their own uniforms without any allowance from the city.

H. F. Hemphill, Chief, Marshalltown, Ia.: Our members wear their regular uniforms while on watch. We have no special insignia for them. I believe they should wear something so they can be readily identifiable.

Our men have always furnished their own uniforms, but we are planning to allow them up to $75.00 per year for blues. We furnish all night clothing, helmets, mittens, etc.

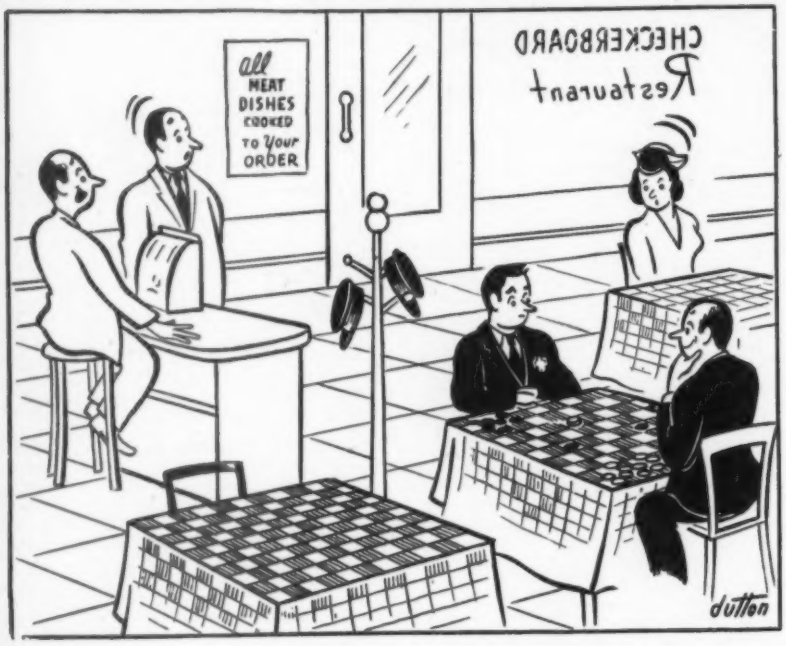
F. H. Lausch, Chief, Colorado Springs, Colo.: The station watchmen are required to wear the regulation station

(*Continued on page 460*)

HERE IS THE QUESTION

1. **Do members of your department wear other than their regulation uniform when on house watch duty. If so, what does the uniform consist of (is there any special insignia worn only by the man on watch)?**
2. **Do members of the department furnish their own uniforms, or does the department supply them?**

FALSE ALARMS



"When They Come Off Duty They Often Finish a Game Here Before Eating!"

A Scotchman and a dozen friends had just finished eating when the waiter arrived with the check.

"Give it to me, I'll pay it," came in loud tones from the Scotchman.

The following day headlines appeared in the newspapers stating: "Scotchman kills ventriloquist."

During the tense interval after Pearl Harbor, a milk bottle containing a piece of water-soaked paper was fished out of the Pacific Ocean.

The writing was too faint to be deciphered, but it was plainly a case for the FBI.

Various tests were made and various acids applied. At last six words stood out clearly. They read:

"Two quarts of milk, no cream."

Healthful

Visitor: "Is this a healthful town?"

Western Ranger: "Sure is. When I came here I couldn't say a word; didn't have a hair on my head; didn't have strength to walk across the floor. Why, I had to be lifted from my bed."

Visitor: "That's remarkable. How long have you been here?"

Western Ranger: "Oh, I was born here, stranger."

"Look at that youngster, the one with cropped hair, the cigarette and trousers. It's hard to tell whether it's a boy or girl."

"She's a girl and she's my daughter."

"My dear sir, do forgive me. I would never have been so outspoken if I had known you were her father."

"I'm not her father, I'm her mother."

A male nurse in a mental hospital spotted a patient with his ear pressed to the wall listening intently. The patient held up a warning finger, then beckoned the nurse to come over quietly. "You listen here," he whispered.

The nurse put his ear to the wall and listened a few moments. Then he turned to the patient and said, "I can't hear anything."

"No," said the patient knowingly, "and it's been like that all day."

The horse and mule live 30 years, and nothing know of wine or beers. The goat and sheep at 20 die, and never taste of Scotch or Rye. The cow drinks water by the ton and at 18 is mostly done. The dog at 15 cashes in, without the aid of Rum or Gin. The cat in milk and water soaks, and then in 12 short years it croaks. The modest, sober, bone-dry hen lays eggs for nogs, then dies at 10. All animals are strictly dry, they sinless live and swiftly die. But sinful, ginful, rum-soaked men survive for three-score years and ten. And some of us, the mighty few, stay pickled 'til we're ninety-two.

I used to think I knew I knew,
But now I must confess,
The more I know I know I know,
I know I know the less.

Vital Statistic

"Just think, children," said the teacher, "A single dolphin will have 2,000 baby dolphins."

"Gosh! And how many do the married ones have?"

Too drunk, he couldn't stop his car,
He slammed on brakes and skid it;
He never lived to tell the yarn,
But a news reporter did it.

"The Place Is on Fire? I Thought It Was Getting Kind of Hot in Here!"

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Every length of Eureka is tested for burst resistance, elongation, warp and twist. The aging qualities of the lining are proved by the Oxygen Bomb Test, while mildew is prevented by "Formula X."

Maximum nozzle pressure is insured at all times through Eureka's unique Smooth Interior Filler Ply, which provides a smooth waterway, avoids "washboarding."

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"For greater protection to life and property"

EUREKA FIRE HOSE

Division of United States Rubber Company

195 Hudson Street • New York 13, New York

Church Fires

(*Continued from page* 443)

in parish house or wherever pictures are shown. If stage is included in church property, scenery, curtains and other equipment should meet modern fire safety regulations. Use of individual, collapsible, folding seats in auditoriums should be discouraged.

In many cities, churches and religious meeting places are not required to install regulation exit signs and lights. The majority opinion holds that such markers are as essential in such occupancies as in theatres and night clubs.

MISCELLANEOUS SAFEGUARDS—In churches where candles and vigil lights are necessary adjuncts to the form of worship, they should be used with care, supervised as continually as possible, and kept away from combustible material. The practice of candle lighting of auditoriums or other sections of the church on special occasions (particularly when holiday or other flammable decorations are used coincidentally), should be discouraged.

Approved containers should be provided for oily cleaning rags, rubbish, ashes, etc.

Smoking in meeting rooms, or in any part of the church or connecting meeting rooms, should be forbidden.

The organ, heating and wiring systems, and flues should be inspected at least yearly.

Basement storage of rummage goods, waste paper or other combustibles should be discouraged, and where done, should be confined to areas enclosed in fire resistive materials.

FIRE PROTECTION — Special hazards in basement or other areas should be protected by automatic sprinklers, and/or fire detection and alarm systems.

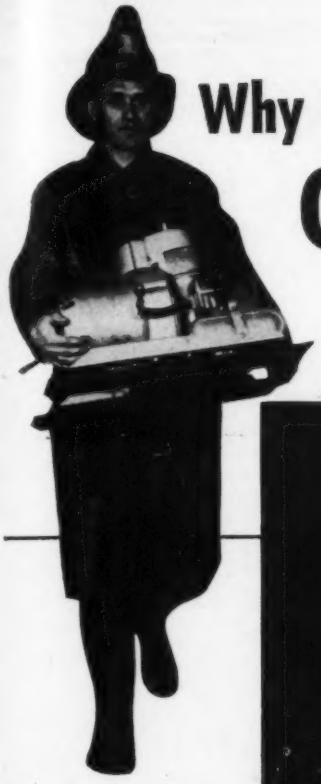
First aid fire extinguishers should be strategically located throughout church, rectory and parish house. These should be inspected in accordance with prescribed standards. Church employes, ushers and all persons connected with the church, should be trained in first-aid fire fighting, meeting possible panic and in assisting the fire department. Periodic fire drills should be held, preferably with representatives of the local fire department, directing.

FOR FIRE DEPARTMENT CONSIDERATION—Company officers, at least, should know the hazards of every church, interior and exterior, in their districts.

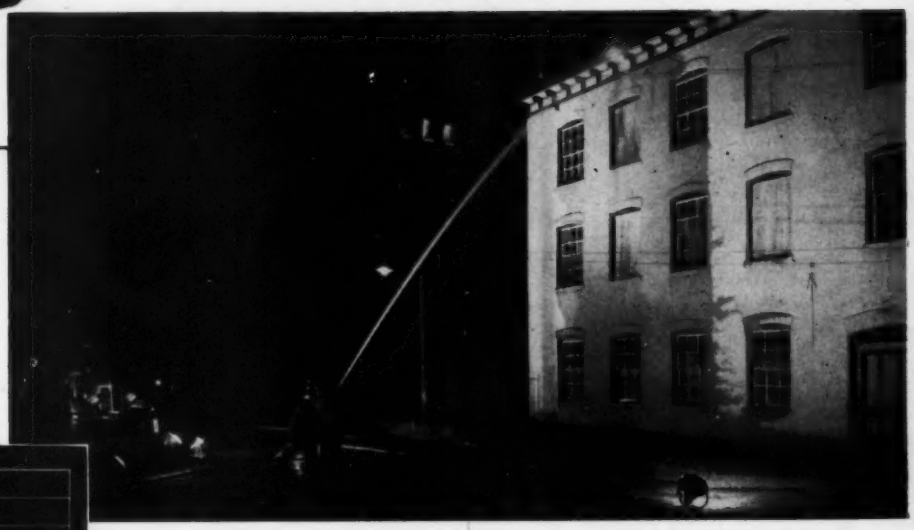
Inspections should be made periodically (emphasis on heating and electrical systems, fire fighting equipment, etc.) The cooperation of church officials and employes in facilitating inspections and correcting hazards is desirable.

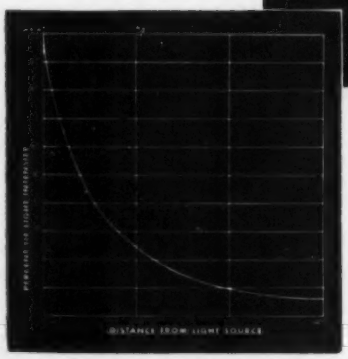
Department should instruct and train all church personnel (permanent and temporary) in fire prevention and control procedures. If church is protected by a volunteer department, instructions for calling the department should be promulgated.

Additional fire fighting help should be summoned promptly and in sufficient strength. Incidentally, fire officers should know where special additional equipment, such as extra long roof-ladders, plaster and ceiling hooks, metal aerials, turret and deck pipes, portable lighting equipment, masks, etc., that might be needed can most advantageously be secured.

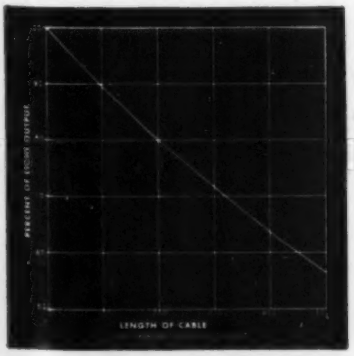


Why HOMELITE Carryable Generators Give Better, Brighter Floodlighting





Note how rapidly the percentage of light intensity decreases with increased distance from floodlamps to lighted building.



See how long cables, in addition to being hazardous, create a sharp drop in the percentage of light output.

According to top illuminating engineers, the ways to get better, brighter floodlighting are — (1) Get your floodlamps *near* the burning building and, (2) keep your cables *short.* They claim . . . and the tables to the left prove their point . . . that the distance from floodlights to buildings and the length of cables used, *greatly* affect the efficiency of your floodlighting.

That is just one of the many reasons why Homelite Carryable Gasoline-Engine-Driven Generators are used by so many fire departments today. Light enough for one man to carry, a Homelite Generator is easily lifted from truck and quickly put any place . . . *close to where you want floodlighting.* Long cables are unnecessary. Your lights and power supply are both in the most effective operating spot. You are always sure of *bright* light . . . *brilliant* floodlighting . . . the kind your men need on the job.

Write for new Fire Department bulletin showing all the advantages of Homelite Carryable floodlighting.

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Powhatan couplings are precision manufactured with quality material—they are second to none for DURABILITY and all-around DEPENDABILITY. It takes the best to make the best.

The "Sensible Lug" Coupling with the curvature enables hose to slide along easily without becoming snagged on obstructions—an important feature that any experienced fire fighter can see at a glance.

Specify improved "Sensible Lug" Coupling on your next hose order. Once you try them, you'll probably never use anything else.

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Established 1892

Firemen should be alert for signs of incendiarism.

There are usually members of the fire department in the congregation of every local community church. They should be encouraged to take a special interest in planning and effectuating fire preventive and protective measures connected with their respective churches.

The Round Table

(*Continued from page* 455)

uniform while performing watch duties. They engage in no work except that pertaining to the watch.

The uniform consists of a light blue shirt, four-in-hand tie (black), suspenders and regulation uniform trousers. Each member of the fire department receives an annual clothing allowance of $50.00.

Allie A. Feldman, Chief, Denver, Colo.: Members of this department are allowed to wear fatigue clothing when standing floor watch during the day hours, with no special insignia required. Members standing night watches from 8:00 P. M. to 8:00 A. M. are allowed to use the regular bunker clothing.

The department allows each man enough cloth for a full uniform each year after one year's service. This cloth can be made up by the tailor of his own selection and the average cost is approximately $30.00 for this work. If a new uniform is not needed, this cloth can be made up into two pairs of trousers at a cost of $5.00 a pair.

W. P. Dean, Chief, Fort Smith, Ark.: Our members wear gray shirts and blue dungarees when on house duty. When on inspection duty or any special occasion, they wear full dress uniforms.

Our members have to furnish their own work clothing, as well as their uniforms.

J. W. Andrus, Chief, Crowley, La.: At the present time our men do not wear uniforms.

My personal idea is that the men on watch duty do not need a special insignia. I believe they should be allowed to wear their uniforms except in the event they have to perform their daily chores. If this is the case, they should be allowed to wear work clothes in order to preserve their uniforms and to save the men some money on laundry bills in cities where the department does not pay for or keep up the uniforms.

The Crowley Fire Department expects to buy uniforms for the men in the very near future.

Waldo Merrill, Chief, Council Bluffs, Ia.: Since the last war it has been a problem to comply with our previous regulations on wearing blue shirts and blue serge pants. Sometimes blue shirts could be purchased. If they could, there would be a variety of blue colors, pockets, etc. The purchase of blue serge pants was also a problem as to the sizes when available and the cost. Up until just recently our salaries were below par with the average departments of our size. I felt it was a burden on the men to compel them to make immediate purchases, as long as shirts were mismatched in colors, so the pants might just as well be.

The members of the department purchase their own uniforms and

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Here's Protection and Comfort in Your Hazardous Work of Safeguarding Life and Property Against FIRE!

Modern fire fighting calls for ***specialized*** protective clothing . . . clothing that safeguards the fireman's life on every run . . . clothing that enables him to use his equipment to the fullest advantage.

Every Midwestern product combines the thoughts and suggestions of practical Fire Chiefs and firemen from every section of the country . . . and every purchaser profits from years of Midwestern research and experience. That is why the famous Mackinaw Coat and other Midwestern clothing have embodied in their design every feature necessary for the protection and comfort of firemen.

In our vast selection of crude rubber materials you will find a type of fabric suitable for your climate and needs. The softness and flexibility in the high-grade materials used are your assurance of long time service and comfort. Many Fire Chiefs are now including Midwestern clothing in their regular yearly budget and, by placing your order early, you can be assured of this adequate protection when needed.

For complete information, have your Midwestern dealer show you our new garments now manufactured from crude rubber compounds. A letter to the factory will also bring you material samples for your inspection.

We now have available: White, Ivory and Brown crude rubber coats for Chiefs, Assistants and other officers; also all sizes short and ¾ length felt lined Firemen's boots for immediate shipment.

NONE GENUINE WITHOUT THIS TRADE MARK

MIDWESTERN MFG. CO., Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Coats**

Chief Everett Hudiburg (second from right) of Stillwater, some of his men, and rescue equipment.

OVER A PERIOD OF 9 YEARS

91 Lives Saved

WITH E and J RESUSCITATORS

THE Stillwater, Okla., fire department has saved 91 lives in the last 9 years with E & J Resuscitators... 91 human beings who might otherwise not have survived...91 grateful families spared the grief of death of loved ones!

It's records like these that put real satisfaction into fire and rescue work. Perhaps you feel your own resuscitation equipment is not up to date, or is not adequate for your needs... if so, now is the time to get the facts on the simplicity, safety and dependability of E & J equipment.

E&J RESUSCITATOR
INHALATOR
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Write today for a demonstration. No obligation, of course...and this could be *your* first step toward making a record as successful as that of Stillwater!

WHAT'S YOUR DEPARTMENT'S RECORD?

We'd like to hear from you if your department's record meets or exceeds Stillwater's, in proportion to populations served. Just send the facts, on your department letterhead, to...

DEPT. K7, E & J MANUFACTURING CO., GLENDALE 1, CALIF.

dress uniforms. Members of the emergency unit crew are furnished with overalls to wear while on duty by the city. The reason for this is that they sometimes get into some dirty messes.

Ernest I. Cox, Chief, Milford, Conn.: Our members while on watch duty wear their ordinary work clothes, such as may suit the choice of each particular man. These clothes are his personal property and he purchases them himself. The reason for wearing work clothes is that the man doing watch duty may have a regular driving or other assignment and should an alarm hit requiring his services elsewhere, then another man takes over the watch duty.

A man may, or may not, wear the insignia of his rank while on watch duty. No special insignia is ever worn, however.

This department furnishes all overcoats, caps, blouses, trousers, and insignia for uniform wear. No work clothes, ties, shirts, etc., are furnished except overalls for special assignments such as fire alarm maintenance crews, apparatus mechanics, painters, etc.

Clement Murphy, Chief Engineer, Washington, D. C.: The man assigned to watch detail wears the same uniform as other members on duty.

Uniforms are furnished by the department without cost to the members.

Walter G. Strickfaden, Chief, Columbus, Ohio: Members of our department do not wear special uniform when on watch and during the day. They wear what we term "fatigue" uniform which is slightly different from the regular uniform.

We have just been able to have passed by the City Council a uniform allowance ordinance, so that in the future uniforms may be purchased by the city.

Thomas H. Cotter, Chief, Providence, R. I.: Members of the Providence Fire Department wear the regulation "in-quarters" uniform when on house watch duty, which consists of "Lee" khaki shirts and pants, with black four-in-hand ties and black shoes. No special insignia is worn.

New members of the department are now given $100.00 to pay for uniforms and equipment. Each fireman assigned in whole or in part to uniformed duty, with one or more years' service is allotted $15.00 for uniforms and equipment per year. This may be accumulative for a period of three years, if they so desire.

Henry G. Thomas, Chief, Hartford, Conn.: Members on watch duty wear regulation shirt, trousers, cap and department badge. The city furnishes the uniforms.

A. McC. Marsh, Chief, Columbia, S. C.: The city furnishes both uniforms and coveralls to our firemen.

When on duty as regular firemen they wear uniforms, but when at work in the station house they wear coveralls.

The fireman's name or initials are stamped on the back of his coverall. The coveralls are white, and the city pays for the laundering.

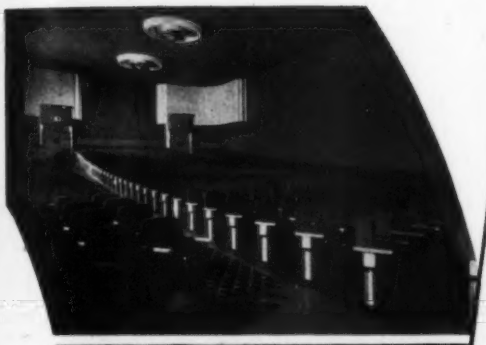
* * *

The following replies are in answer to a previous round table on the use of service stripes on uniforms.

L. B. Barnum, Chief, Phoenix, Ariz.: We find it very convenient to desig-

TOLEX

FIRE-RESISTANT UPHOLSTERY AND APPOINTMENTS FOR GREATER PUBLIC SAFETY WHEREVER PEOPLE CONGREGATE



TOLEX F. R. (plastic leathercloth certified to be fire resistant by New York City, Boston and other large communities) gives a rich new look to the interior appointments of theaters, hotels, bars—apartment buildings, department stores, restaurants—railroad cars, buses, watercraft—any place where people congregate. For upholstery, wall coverings and other interior decoration, TOLEX means colorful lasting beauty and super-toughness.

We will gladly send a member of our technical staff to discuss fire-resistant leathercloth specifications and test methods with fire marshalls, fire departments, fire prevention boards or underwriters. Write Textileather Corporation, Toledo, Ohio.

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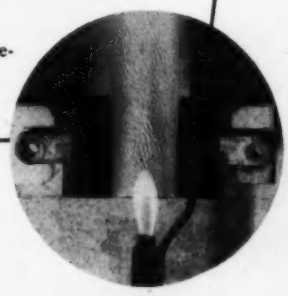
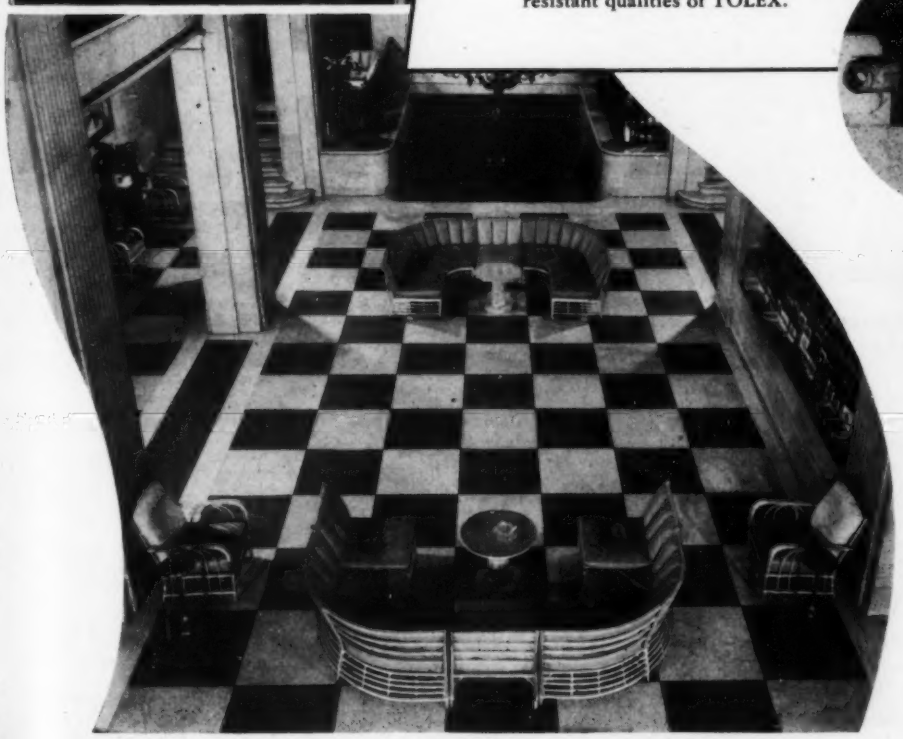
Flame tests demonstrate the fire-resistant qualities of TOLEX.





TOLEX* CAN TAKE IT!

*Reg. U. S. Pat. Off.

nate the amount of a man's service by means of maltese crosses and service stripes on the left arm of his uniform coat. One stripe is used for one year's service and a maltese cross for five years' service. Silver stripes and crosses for all firemen are used through the ranks of captain; gold stripes and crosses for all officers.

W. H. Hazell, Chief, Hutchinson, Kans.: We are not too anxious to wear anything that is too outstanding but we do wear a Maltese Cross placed upon the left sleeve. Each Cross designates five years' service. We do notice that most firemen when they have in their five years are always anxious and ready to receive and generally wear it with pleasure as it is proof of that much continuous service.

As to the public reaction, it has on a number of occasions been asked of the firemen what that designated. When they were told the reaction seemed favorable with the comment that you are getting to be an "old timer." The feeling we get from this is the fact that most persons are glad to know that they are being protected by a bunch of experienced firemen or men who have stood the test.

W. P. Roble, Chief, Salem, Ore.: This department uses a single silver one-half inch stripe on both sleeves approximately 3½ inches above the end of the sleeve to signify firemen and gold ¾-inch stars above the stripe on the left sleeve to denote years of service—one gold star for every five years' service.

The captains wear the same, with the exception that the stripes are gold instead of silver. Gold service stars are the same.

The battalion chiefs wear a ½-inch gold stripe and ¼-inch gold stripe on both sleeves with the gold stars above on the left sleeve and one 1-inch gold star on the right sleeve above the stripes. The right arm star is the emblem denoting rank.

The chief wears two ½-inch gold stripes and service stars the same as the other men. On his right arm he has two 1-inch gold "rank" stars.

This department favors the rank stripe and service stars. Along with new style uniforms, these emblems are very smart looking and give the men more pride in their appearance.

Joseph L. Trudell, Chief, Bay City, Mich.: I believe that the wearing of service stripes is a desirable plan, because it would be an incentive towards greater personal pride on the part of the men in their appearance and would tend to promote and maintain a competitive spirit.

At the present, only the chief and assistants wear them.

John T. Shelly, Chief, Calgary, Alta.: While our department does not wear them, I do believe in service stripes on uniforms (bands for officers). I am a staunch believer in credits which are too lacking in the service. A pat on the back with "services well rendered my boy" is not enough. Let a man wear the bouquets while he is in uniform and not when he is out of it.

Bank messengers, postal letter carriers, street railway men, railway employees all wear them, so why not firemen. Any decoration well earned and placed on a man's uniform has a very satisfying effect and does without any doubt make him feel proud to wear the uniform.

The fact that a man wears a stripe for every five years of service proves that he has earned the right to wear them through his ability and moral character as a servant of the citizens to be kept in the service for such a period of time. It would certainly give the rookie an incentive to carry on that he might earn the right to wear them through strict obedience to his duties.

The wearing of stripes for service is a worthwhile innovation and has everything in its favor.

Joseph L. Murphy, Chief, Kingston, N. Y.: I do not believe in the use of service stripes on firemen's uniforms, because I see no value in the stripe.

It has been my experience that stripes fade or tarnish and spoil the appearance of the uniform.

We did use service stripes in our department but have discontinued their use for the above reason.

Frank F. Schroeder, Chief, Everett, Wash.: Our men wear a star on the sleeve for each five years of service. I feel that it is good practice and gives recognition to a fellow and in most cases he feels that he is expected to be a leader.

Charles E. Lane, Chief, Great Falls, Mont.: We do not use service stripes in our department, but I believe they would be a credit to any member and would show the public how much time he has spent in their department. He would undoubtedly get a little more respect from the citizens.

We have received the respect of the citizens of Great Falls as is evidenced

The Hose With a Reputation for Long-Service Reliability

GOODALL FIRE HOSE

Cotton Rubber Lined . . . Single or Double Jacket

Every detail of construction contributes to the strength, durability and safety for which this hose is famous . . . as perfect in quality as it is possible for men and machines to produce. Jacket of selected long fibre cotton duck withstands exceptionally hard wear and rough treatment, with effective resistance against snagging, puncturing, bursting. Rubber lining is tough, durable, carefully cured. Flexibility and relatively light weight assure easier handling and coiling. Made in all standard sizes.

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MILLS and EXPORT DIVISION, TRENTON, N. J.—ESTABLISHED 1870

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by the cooperation they have given us.

James MacGregor, Chief, Edmonton, Alta.: I believe the use of service stripes, or bands on firemen's uniforms, to indicate their period of service is a desirable plan. This practice shows an appreciation for a man's service, apart from monetary rewards or consideration.

Our department will be wearing service stars this year.

John Schweder, Chief, Bethlehem, Pa.: I do not believe the use of service stripes or bands on firemen's uniforms to indicate their period of service in the department, would be a desirable plan.

L. L. Geisler, Chief, Johnson City, Tenn.: I believe the use of service stripes on firemen's uniforms, to indicate their period of service in the department, would be a desirable plan, for it would cause firemen to take more pride in their appearance.

Our men do not wear them, but I feel that it would be a good thing as it would make the public appreciate the veterans more. There are no other public servants that have made greater sacrifices than members of the fire service.

World Wide Fire News

By Roi B. Woolley

West Indies City Burns

An eight hour fire on June 19, 1948, all but destroyed the city of Castries, St. Lucia, Windward Islands, with damage expected to run into the millions. The capitol city has a population of 24,000. No lives were lost.

The fire started from an undisclosed source, in an uptown business house and spread rapidly through the combustible structures. Thousands were left homeless and light and telephone service all but disappeared. Nearly all government buildings were destroyed, as well as those housing the Castries Town Board, Barclay's Bank, courts, library, cable office, post office, the newspaper "Voice of St. Lucia," a theatre, doctors' offices, five hotels and most of the grocery and drug stores.

Homeless persons huddled in makeshift shelters, or were quartered in homes that were not caught in the path of fire. Appeals for aid were made to Trinidad and the three other islands in the Leeward group. Truckloads of food were rushed to the city from other parts of St. Lucia and a British warship was dispatched with relief supplies. The dock area continued to function and a Canadian steamship was able to unload foodstuffs.

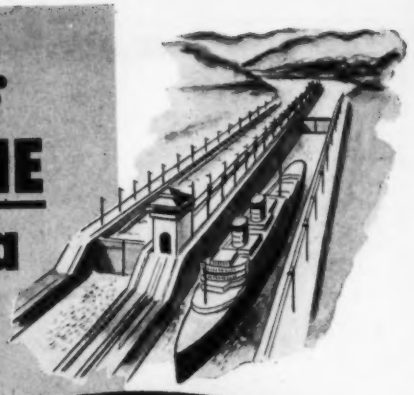
Firemen were handicapped in fighting the fire because of low water pressure, the outcome of a prolonged drought. The blaze raged through the community practically unchecked all during the night.

* * *

TNT Blasts to Test Underground Plants

The Dugway, Utah, Proving Grounds, scene of World War II bombing tests that paved the way to much of the destruction of Japanese cities, will be the site of tests by the Army's corps of engineers and civilian contractors, to see how much powder—or atomic bombings—it takes to destroy an underground factory.

There is ONLY ONE Panama Canal



and there is ONLY ONE INDIAN FIRE PUMP

Indian Fire Pumps are available with either solid brass or galvanized tanks.

"We were able to extinguish the fire as fast as we could walk." That's what a Kansas rancher says about how he put out a prairie fire with *Indian Fire Pumps*. "The flames were from two to four feet high and driven by a strong wind and we still had water left in the five gallon tanks. I never saw so much fire extinguished by so little water."

Equip now with these world famous, portable fire fighters. You will be delighted with the way they make short work of all kinds of inside and outdoor fires. Tank may be filled with clear water or properly formulated wetting agents.

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IDENTIFY YOUR FIREMAN.

CAFCO RIGHT OF WAY SIGNS

Make It Possible to Have Right of Way When Responding to a Fire Call

Actual Size 10"x3¾"

These signs are made of baked Porcelain Enamel on an 18 gauge steel plate

With each purchase of 10 sets, a set of "Fire Chief" or "Asst. Chief" signs will be enclosed at No Charge.

We Handle a Complete Line of Fire Equipment

QUOTATIONS FURNISHED ON REQUEST

CAPITAL FIRE EQUIPMENT COMPANY

1014-28th St., Box 1775 Sacramento, California

Army and civilian personnel, now on "operation underground," have built structures simulating factories and other buildings well underground which will be subject to bombing attack. These structures, mostly of heavily reinforced concrete with walls of differing thickness, are being put in place on the salt flats, deserts, and limestone cliffs around the remote proving grounds, 85 miles southwest of Salt Lake City. Others are being built in sandstone bluffs near Castle Dale in Central Utah, and in the Granite Mountains south of Grand Junction, Colo.

Those at the "dry clay" site south of Dugway are nearing completion. The clay is so dry that it billows 50 feet in the air as construction equipment cuts into it; workers and observers wear safety glasses and respirators.

The test firings, it is said, with small charges of TNT, will become increasingly stronger against new targets until at least three and perhaps five full-scale loads of 160 tons of TNT in the form of mines are placed deep in the special holes near the targets.

The first of the "big boys" will go off about Sept. 1; the last about the time snow flies over the western slope of the Rocky Mountains. When all the shooting is done military and civilian experts will look over the data and issue secret instructions to designers on how thick walls and foundations will have to be built to withstand the impact of high explosives.

The fact that both targets and explosives are being placed underground is not a coincidence.

Army authorities admit that the idea in ordering the operation is to see what would happen should a guided missile or bomb, probably containing an atomic warhead, land near a factory and burrow far into the soil or rock before exploding.

They know the difference between the explosive force of TNT and atomic bombs, and therefore from the TNT-exploded targets they can calculate the rest.

* * *

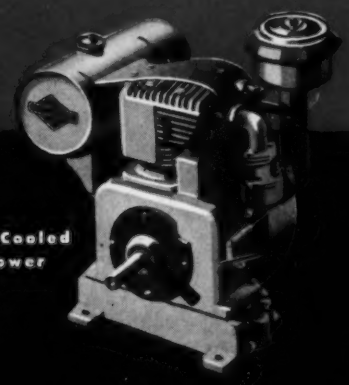
Hot Off the News Ticker

Over 31 persons were killed and 43 others wounded June 20, 1948, in two explosions in the Jewish quarter of the bazaar district of Cairo, Egypt. The blasts were believed to have been accidental detonations of fireworks explosives. Damage was estimated at $480,000. . . . Two Navy training planes flying in formation with five others, collided over downtown Detroit, June 23, 1948, and crashed in flames. They smashed into a machine shop and a house, killing both pilots and injuring at least three persons. Firemen quickly extinguished the fires. . . . A radio-controlled Navy fighter plane broke away from its mother plane and flew a pilotless flight across Cape Cod, June 23, 1948, plunging into the ocean a few miles south of Woods Hole. Believed to have been hit by shells from the anti-aircraft batteries of the light cruiser Providence, the plane swerved from its course and headed toward the Cape, at 170 MPH, loaded with gasoline for two hours' flying. . . . When a gasoline truck, fueling an American Airlines DC-6 broke into flames as passengers were boarding the plane, June 24, 1948, at LaGuardia Field, prompt action by air-line and airport employes and fast work by the airport fire brigade prevented loss of life or serious damage to plane. Stewardesses

led 20 passengers from the plane and Port of N. Y. Authority fire-fighters, from their station a mile distant, used foam to kill the fire in a matter of seconds. . . . Panama has issued six pictorial stamps, commemorating the Colon (Panama) Fire Department's 50th anniversary. The 10c variety pictures an unmanned American-LaFrance pumper of ancient vintage while on the 20c copy, four hardy "bomberos" are shown 'manhandling' an old 'jumper' into action. . . . Bogota, Colombia, will have a modern fire department, to be organized and trained by Francis B. Hall of Boston, it is reported. . . . Two men were killed in an explosion at the Picatinny Arsenal, Dover, N. J., June 8, 1948. They were both civilians who were working in a one-story, one-room brick building loading photo-flash bombs. Cause of the blast not disclosed. . . . Frank Short, U. S. Army, has patented an apparatus for releasing from aircraft chemical warfare agents such as toxic liquids and incendiary substances of high efficiency and spreading action. . . . The entire crew of five of the great eight-engined YB-49, Northrop's Flying Wing, were killed when the craft crashed and burned near Muroc Air Base Field, in California, June 5, 1948. The 44-ton monster, with jet engines developing 32,000 HP, had a wingspread of 172 feet and weighed 100 tons fully loaded and was on a test flight. . . . A fire on June 7, 1948, wiped out all buildings on 20 streets and alleys in the Foochow, South China, business district. Destroyed among other buildings were 1,239 houses. . . . A heart attack, at he battled a grass fire out of control, claimed the life of Thomas Carter, 67, caretaker of the C.N.R. recreation grounds, London, Ont., June 2, 1948. Firemen found his body in smoldering grass after responding to the alarm. . . . In Macclesfield, England, lightning started a fire in a suburban home, then put it out. The lightning stroke melted the bathroom gas and water pipes. Freed gas flared up, but water gushing from the melted pipes doused the blaze. Page Mr. Ripley! . . . In Fort Erie, Ont., a radio fell into Mrs. Margaret Emma Possnet's bathtub while she was bathing and the resulting electric charge killed her. . . . Thirty-three workers were killed and another 150 injured by an explosion June 1, 1948, in the Soviet zone city of Halle. The blast occurred in a power plant of the Troeglitz-Zeitz gasoline factory and was blamed on coal dust originating from the powdering of coke, papers report. . . . Ten stevedores were overcome by cyanide gas June 3, 1948, while unloading corrugated paper drums of cyanide crystals in the hold of the S.S. Agwimonte of the Agwi Line at Pier 34, Hudson River, New York City. Spilled crystals became wet, giving off poisonous gas. All recovered. . . . Fire on May 29, 1948, swept the RAF's huge gasoline dump at Nicosia airport, Nicosia, Cyprus, a refueling point for U. S. Air Force planes. None of the 20 U. S. aircraft there at the time was damaged. Cause unknown. . . . One person died and 200 were made homeless in a fire that entirely destroyed the Moorish village of Mildudi, just outside the town of Fedala, in French Morocco. . . . Eight cabins were destroyed by fire, started by a crashing Navy single-engine trainer plane, which hit a power wire near Rehoboth Beach, Del., June 2, 1948. The pilot was injured. . . . A fire reported too tough for firemen of

Briggs & Stratton

Workmen Are Proud of Their Engines



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At Briggs & Stratton every effort is aimed at building the world's finest single cylinder, 4-cycle gasoline engines. The craftsmen who build them put more than skill and experience into their work. They are proud of the care and exactness they put into each engine.

Briggs & Stratton air-cooled engines deliver dependable power, stamina, and performance — the RIGHT power to meet the most exacting requirements. America's choice for 30 years.

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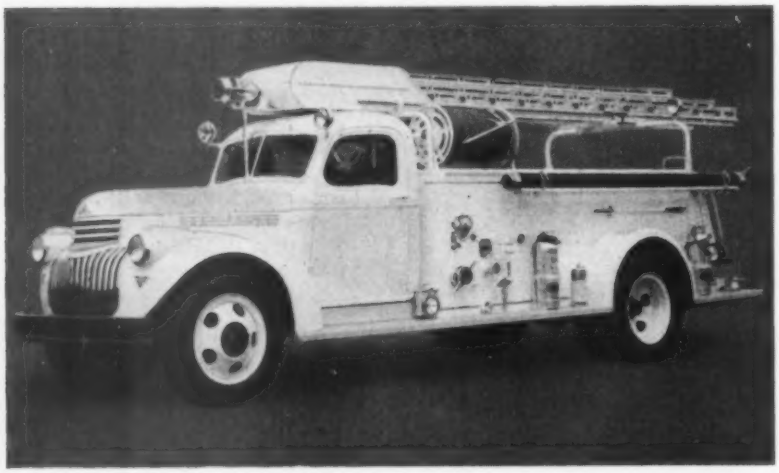
75 YEARS OF SERVICE

Back in 1873 this Company started manufacturing pumps — we have never stopped. Today our Barton-American fire pumps are operating throughout the entire country — yes, even the world. These 75 years of continued service and experience are your guarantee of quality.



The above fire truck is equipped with our Barton-American, Duplex Multi-Stage, Centrifugal, Midship Mounted Fire Pump, which can be mounted on any commercial chassis. It is the *only* two-stage fire pump with three distinct operating characteristics. *No other pump has this feature.*

A REAL MARK OF DISTINCTION

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AMERICAN-MARSH PUMPS, INC.

BATTLE CREEK, MICHIGAN, U. S. A.

SPECIFY

HOSE BRASS GOODS W&B LINE THE WOOSTER BRASS CO. WOOSTER, OHIO

dependable TRUMPET quality. This insignia on any fire fighting equipment is an assurance of precision construction and thorough engineering for a lifetime of service.

THE WOOSTER BRASS CO.

WOOSTER OHIO

Boulogne, France, was towed across the English Channel to Dover, on May 27, 1948, where that city's fire fighters, with more and better equipment, extinguished it. Fire was in the jute cargo of the 6,000-ton British steamer Clan MacLaren.

Questions and Answers

Army Service Gas Masks

To the Editor:

Would it be safe to use an Army Service Issue Mask where there might be fumes from sulphur, potash, glue and red phosphorous?

L. S.

Answer: In answering your question we shall have to assume that you are talking about the products of combustion from the various types of substances listed in your inquiry. You do not mention whether you have a hazardous location in mind where all of these substances may be met in one fire, or whether you have separate locations in mind. This does not affect the answer appreciably, however, as a gas mask or breathing apparatus as used at a fire must be suitable to cope with a variety of conditions, unknown to the fireman when the alarm is sounded.

You are safe in saying that the Army Service Issue Mask should be adequate to take care of the products of combustion of sulphur, red phosphorous, or any fumes from potash. Glue is such a complex organic mixture that its combustion would undoubtedly result in the production of carbon monoxide, which the mask in question definitely will not screen.

Carbon monoxide would almost certainly be present in fires from other materials becoming heated or ignited from sulphur or phosphorous fires, in fact it is the most important gas for which the fireman needs protection.

Knowing this, the Army and the U. S. Bureau of Mines have issued repeated warnings not to depend upon Army Service Masks for protection against smoke from fires. They may protect against ordinary gases and smokes that usually give warning to the senses, and at the same time, permit the carbon monoxide to pass through unnoticed.

Our recommendation to you would be that you do not risk the use of Army or OCD masks, but insist upon your protective equipment being made for the fire fighting job you may have to tackle, and approved by the U. S. Bureau of Mines as being adequate.

Carbon Dioxide in Extinguishers

To the Editor:

Does the carbon dioxide that is created in a soda-acid extinguisher when put into operation have any effect on a blaze?

Would you put the back-pack type of extinguisher in the same classification as carbon dioxide, foam, carbon tetrachloride and soda-acid as a hand extinguisher?

Which has the most positive value when closed—the wheel type or

squeeze type valve on a carbon dioxide extinguisher, and which one would be most apt to leak after being opened and then closed for a few seconds and not totally discharged?

E. O. C.

Answer: The volume of carbon dioxide generated in a soda and acid extinguisher upon discharging, is about equal in volume to the liquid in the extinguisher. Furthermore, this gas is trapped in the extinguisher so as to exert a pressure to force the water from the unit.

As far as fire extinguishing effect goes, the carbon dioxide gas generated in the soda and acid extinguisher has no value. However, as a propelling agent it is very necessary. Thus you might say that the gas itself has no effect on fire extinguishing, but it has a secondary effect in this operation as it provides the pressure for discharging the contents of the extinguisher.

The pump can or pump tank, such as used in fire departments, is classed by the Underwriters as a fire extinguisher. We therefore see no reason why the back-pack pump should not be so classed.

Of course, it could not be classed with a chemical fire extinguisher such as soda and acid, carbon dioxide and foam. But under the classification of extinguishers you will find the five-gallon pump tank so listed.

We do not know which type of valve is the most effective in stopping the flow of carbon dioxide from a CO_2 extinguisher. Theoretically, the wheel-type should be the better, for you can put greater force on this valve in closing the extinguisher than is created by the spring in the squeeze-type. You will recall that in the squeeze-type, the sealing of the valve is brought about by the expansion of a compressed spring. Thus you have a predetermined maximum pressure which can be produced in sealing the valve. In the wheel-type, you can exert more pressure than is produced by the squeeze-type.

After all, it seems to be a matter of how well the valve is made, and how tightly its component parts fit together.

Nozzle Tips, Strength of Hose and Couplings

To the Editor:

Of all the nozzle tips, how much is the ½-inch tip used? Is it used more often than a ¾-inch tip on a booster line?

A 50-foot section of 2½-inch hose holds approximately 12 gallons of water. How many sections can be stretched straight up without bursting the bottom section, if each section stands a test of 400 pounds per square inch?

H. E. B.

Answer: Of nozzle tips of diameters ½ and ¾ inches, the former is used to the greatest extent, as it is employed quite generally on booster lines of small diameter. The ¾-inch is quite often employed on 1½-inch booster line, but the former is more commonly encountered in the fire service.

Answering your second question, the calculations are as follows:

Four hundred pounds pressure equals a head of 400 x 2.304, or 921.6 feet. Thus

Shuredry IS ON THE JOB!

The old smoke-belching steam pump is a thing of the past... and so is unnecessary damage from smoke and water! Shuredry Green-Bak Salvage Covers, in the hands of trained salvage crews, are protecting merchandise, furniture and fixtures from loss... building new records of achievement in cutting fire losses.

FLORIDA STATE FIREMEN'S ASS'N

is one of the many progressive organizations who use Green-Bak Shuredry Covers to teach modern methods of salvage to smaller departments in their state.

Shuredry

GREEN-BAK SALVAGE COVERS

Approved Factory Mutual Laboratories and National Board of Fire Underwriters

They TOP Every TEST

Shuredry Green-Bak Salvage Covers top every known test for water penetration and seepage. Pressure-impregnated with the exclusive Fulton *dry* treatment, Shuredry covers will not stiffen in cold weather or become tacky in heat. They're always fast to spread... easy to fold and carry.

On your next order to your fire equipment dealer, specify SHUREDRY *Green-Bak Salvage Covers.*

FULTON BAG & COTTON MILLS
Manufacturers Since 1870
New Orleans Dallas Kansas City, Kans.
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DEATH
is
SO PERMANENT
and many times
SO NEEDLESS...

A *Scott Air-Pak* should be used
FIRST NOT LATER!

● Designed as fighting equipment, the Scott Air-Pak should be used on arrival at a fire, *not after* men have collapsed from deadly fumes or choking smoke. Instantly ready for use, the Scott Air-Pak delivers fresh, cool *air* (not oxygen). Each inhalation provides *all* the fresh air demanded by its wearer, regardless of age, physical condition or lung capacity. Therefore use of the Scott Air-Pak is not restricted to younger men, or men in top physical condition.

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BUREAU OF MINES APPROVAL No. 1308

ONLY THE SCOTT AIR-PAK HAS ALL 6 FEATURES

1 Can be used in any temperature from below zero to oven heat.

2 Only the Scott delivers fresh, cool, confidence-inspiring air.

3 Only the Scott has a gauge on the cylinder to prevent the inadvertent use of empty or partly empty cylinders.

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6 Only the Scott has a gauge within the wearer's vision; custom-built, not a commercial gauge, to provide the maximum in utility and safety.

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there would have to be a column of water this height in order to give a pressure of 400 pounds at the bottom section of the hose which we assume is stretched up the face of a building. 921.6 feet would represent 18 sections (plus 21.6 feet extra). Another section could not be used if the hose burst at 400 feet, for the additional 50 feet would represent a pressure greater than 400 pounds at the lower end of the line.

It is probable that the top coupling would pull off before the hose burst at this pressure. The weight of water in a 50-foot section of 2½-inch hose is 105.4625 pounds. The weight of 50 feet of fire hose is 67 pounds approximately. Then the total weight of a charged line of 2½-inch hose is 105.4625 plus 67, or 172.4625, or 172½ pounds approximately.

The cross-section area of 2½-inch hose (that is the water-way) is 4.9087 square inches.

If the water pressure in the line is 400 pounds per square inch, there will be a pull on the coupling of 1963.48 pounds—where the pressure is 400 pounds per square inch in the hose.

This represents the maximum pull the coupling should stand if tested to 400 pounds per square inch.

As each 50-foot section of hose represents a pull of 172.5 pounds, the number of sections which could be suspended in a line before the topmost couplings pull off would be 1963 divided by 172.5, or 11.4, or 570 feet of hose. The nearest number of complete lengths to this length would be 11 sections, or 550 feet. Thus the hose could be suspended only 550 feet if the couplings would stand no more pull than the test pressure of 400 pounds per square inch in the hose.

New England Chiefs Convene

Over 400 officers and members of the fire service, together with guests, enrolled for the 26th Annual Conference of the New England Association of Fire Chiefs at Wentworth-by-the-Sea, Portsmouth, N. H., June 22-24, inclusive.

From the moment of the opening gavel, wielded by President Chief Arthur W. Spring of Laconia, N. H., until the final adjournment, the conference followed out a crowded business and social program.

The morning of Tuesday, June 22, saw the invocation by Rev. Michael F. Collins, Chaplain, New England Association of Fire Chiefs; addresses of welcome by Mayor Cecil M. Neal, Portsmouth; Edward C. Peterson, City Manager of that city; Chief Oscar B. Berquist, Berlin, N. H., President, New Hampshire Fire Chiefs' Club, and Chief George T. Cogan, Portsmouth. Response to the addresses of welcome was made by Chief Albert W. Kimball, Hingham, Mass. The impressive memorial services, conducted in the grand ball room of the hotel, included selection by the Chapel Quartette, the roll-call of deceased members, and sounding of taps. The Rev. John P. Fitzsimmons, Pastor, Plymouth Congregational Church, Belmont, Mass., delivered the memorial address and benediction.

The afternoon was given over to business sessions, most of which dwelt upon the forest fires of last October. Chief John E. Holden, of Newington, N. H., who enjoys the unique distinction of having his own "private" fire department and who has developed a special type of apparatus for fighting fires where

public water supply is not available, told about forest fire conditions as he saw them in Maine and New Hampshire. Chief Holden strongly emphasized the need of concerted action in forestalling a repetition of the 1947 debacle and was outspoken in his demand for more effective mutual aid plans and procedures in the afflicted area.

Chief Ralph C. Seavy of Rochester, N. H., recounted the problems faced by his department during the hectic October forest fires and also stressed the advantages of systematic mutual aid. He was followed by Raymond J. Kenney, Massachusetts State Forester, who told about his state's fires during the same period. Contrary to reports, he said, every fire in Massachusetts last October was under control before the saving rains came. He said that at one time Massachusetts fire fighting equipment was sent into Connecticut to give assistance during an emergency there.

Chief Oliver T. Sanborn of Portland, Me., detailed the considerable operations of the units of his fire department during these trying days. He, too, emphasized the importance of preparing for possible repetitions of last year's catastrophe.

Other addresses scheduled for the afternoon were: "Fire Fighting in Rural Districts," by Chief Henry E. Fortier, of Manville, R. I., and "The Relation of Thermal Insulation Materials to Fire Safety," by Walter H. Phoenix, Consulting Engineer, Concord, N. H.

On Wednesday morning's session, Chief Alfred H. Koltonski of Rutland, Vt., brought amusement and applause with his pertinent paper, "Firemen's Training in Small Communities," in which he dissected some of the pet practices of volunteer fire officers and sidewalk chiefs. Chief Paul P. Heinz, of New Haven, President of the New England Division of the International Association of Fire Chiefs, took for his topic "Surface Active Agents—Wet Water and its Advantages" and told about his experiments and experiences with this newest of modern fire extinguishing agents. Chief Heinz terms this development one of the most important in the long history of the fire service.

Chief Henry C. Thomas of Hartford, Conn., ably discussed the current problems of the fire service and urged the association members to greater efforts and accomplishments in their fight against fire.

"Radio and its Advantages to Fire Departments," was the topic assigned to Ralph F. Anderson of Stoneham, Mass. Mr. Anderson pointed to the need of broader application of radio in the fire service and emphasized its importance in controlling large area fires.

The address of Mr. Fred B. Philbrick, President, The Gamewell Company, was postponed until the afternoon session, at which time he went into the details of voice communications for fire departments.

The afternoon session was highlighted by a Round Table discussion presided over by Chief Roi B. Woolley, Assistant Editor, FIRE ENGINEERING, substituting for Fred Shepperd, Editorial Director of this journal.

So timely and important were the topics introduced for discussion that this feature was continued over into the Thursday morning's session. The main subjects reviewed, and upon which action of one kind or another was taken

FIRE HOSE . . . FAST!

WHERE NEEDED . . . WHEN WANTED

Quaker Air Deliveries Speed Fire Hose For Emergency Needs

When fire hose is needed fast . . . you can depend on Quaker service. To speed this service to all parts of the nation, Quaker hose is now being delivered by air in emergencies. An outstanding example of the value of this service was the Bar Harbor fire. Eight thousand feet of Quaker hose was flown from Philadelphia to Portland, Maine just eight hours after the order was received.

If it is proved-quality fire hose you need . . . and in a hurry, rely on Quaker service. In an emergency Quaker stands ready to place any amount of fire hose right on the job for you in a matter of hours instead of weeks. For your normal needs, Quaker offers complete service on dependable, long-lasting fire hose in a variety of weights and sizes . . . precision made of pre-tested materials.

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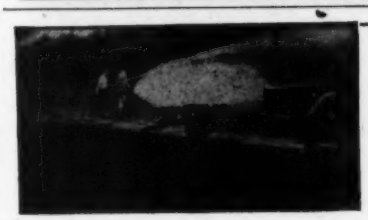

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Available in carrying frame, mounted on wheels or on rubber-cushioned steel channels.

Hale Type FZZ Portable Pumping Unit pictured above is pumping fog and solid stream through 1½" lines. View at right shows unit pumping foam. Foam proportioner is available at slight extra cost.

The FZZ will supply from draft, 60 GPM at 90 lbs. pump pressure; and 150 GPM at 30 lbs. It can supply two capable fire streams through 1½" lines with ½" tips.

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An absolutely dependable, tried and proven siren for communities of all sizes. Loud, clear, simple to install and no maintenance to bother with. Embodying the "know how" of the oldest and largest makers of siren signals in the fire field. Write for descriptive literature and list of towns using the model "M." Also . . . Manufacturers of a Complete Line of Apparatus Sirens.

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55 Allen Street, Rochester, New York

DEPENDABLE - SIRENS

ATMO ALERTS PREMISES AND NOTIFIES FIRE DEPARTMENT 5 SECONDS AFTER START OF FIRE!

ATMO is the famous low-cost automatic fire alarm system that operated so effectively at the International Association of Fire Chiefs Field Day at New Haven, Connecticut, on May 22, 1948.

Within a period of 5 seconds after the fire was started, ATMO alerted the premises by means of a blinker light and directional siren, at the same time transmitting the alarm directly to the New Haven Fire Department Headquarters by means of the municipal circuit. Within 56 seconds from the start of the fire, the first apparatus arrived and went into action on the fire.

The same results can be obtained in your town. Reduce the fire losses in your community by having ATMO installed in your most hazardous occupancies. Ask for a free survey by our engineering department.

The ATMO System is approved by
Underwriters' Laboratories, Inc.
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ATMO ACTS in SECONDS to STOP FIRE

J. H. SCHARFF, Inc.
40 MAIN STREET, ORANGE, NEW JERSEY
ORANGE 5-6002

by the members, included "Mutual Aid for Small Communities"; "Civilian Protection and the Fire Service"; "Standardization of 1½-in. Threads, Booster Line Threads and Threads for Forestry Work"; "Labor Conditions and Shorter Hours as They Affect Fire Departments" and the "Hazards of Television."

On the first-named subject, the members adopted a resolution urging action in the preparation and enactment of a suitable mutual aid program. It was also voted to standardize on "National Standard" threads wherever and whenever possible. Indicating their concern over present and possibly future manpower shortage and the readjustments necessary to effectuate the shorter working hours and added vacations of personnel, the association recommended the appointment of a committee to make a thorough survey of conditions, and report later with recommendations and procedures.

Fire Chief Stackpole of Lowell, Mass., told of the costly fire which recently destroyed a five-story building in his city and which might conceivably have originated in a television studio. Chief Chase of Haverhill, Mass., also reported a fire in a television installation which occurred on the day preceding the meeting. The members voiced approval of a study into the hazards attendant upon the installation and operation of television equipment.

Among these who entered into the Round Table discussions were Chiefs Holden, Wm. Hill, Potter, Thomas, Flynn, Morley, Kimball, Scanlon, Wilson, Wells, Travers Eames, Chase, Stackpole, Briggs—also former Chiefs Samuel Pope and John W. O'Hearn, Percy Charnock and A. C. Hudson.

On Wednesday afternoon there were demonstrations by the exhibitors, and the awarding of prizes donated by them to lucky ticket holders. The Portsmouth Fire Department's Ladder 1 assisted in the demonstrations. The exhibits included a number of the latest type pumper and tanker units as well as newest fire fighting implements and equipment (including radio and recording devices).

The formal banquet was held Wednesday evening, with former Chief Selden R. Allen of Brookline, Mass., as toastmaster. The address of the evening was delivered by Rev. John P. Fitzsimmons of Belmont. It was captioned "Two Chaplains on A.W.O.L." and recounted his interesting experiences while serving as Chaplain in the Army, overseas in World War II.

The program of entertainment for the ladies included dancing, bingo games and boat trips. The ladies committee was headed by Mrs. Selden R. Allen and included Mrs. Spring, Mrs. Wm. Hill, Mrs. Potter, Mrs. Malloy, Mrs. Koltonski, Mrs. Slaman, Mrs. Graham, Mrs. Dooling and Mrs. Palmer.

The new officers of the association are: President, William H. Hill, Belmont; First Vice President, Stuart Potter, Greenwich, Conn.; Second Vice President, William H. Clifford, of Cape Elizabeth, Me.; Secretary-Treasurer, John W. O'Hearn. It was decided to hold the next year's conference at the Wentworth-by-the-Sea, June 21-23.

The following State Vice Presidents were elected:

Maine—Chief Oliver T. Sanborn; New Hampshire—Chief Anthony J. Malloy; Vermont—Chief Alfred H. Koltonski, Rutland; Massachusetts—

Chief Thomas A. Slaman; Rhode Island—Chief A. J. Cote, Woonsocket, and Connecticut—Chief George C. Graham, Bristol.

Wm. J. Dooling, Chief of Plant Protection, Hood Rubber Company, Watertown, Mass., was elected Sgt.-at-Arms for the coming year.

Industrial Brigade

(*Continued from page* 447)

the practice of piling stock boxes or tote boxes in corridors.

The major difficulty in overcoming such conditions was the lack of storage space. A solution of the problem was found by studying the storage methods in a particular area and recommending improvement in these methods. In some cases, the fire brigade made it its business during tours of the plant to note all space that was apparently unused and recommended that it be utilized for storage.

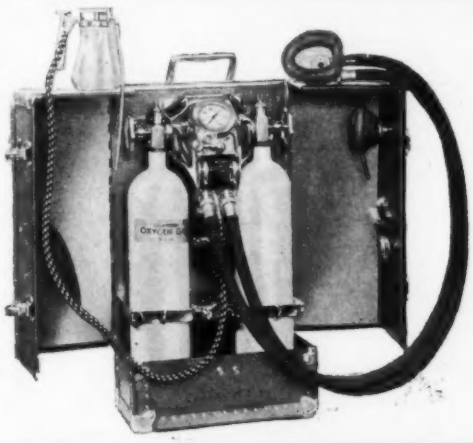
Next step in the fire prevention program was the control of all open flames, which was accomplished by drawing up a burning permit. These permits were designed to be issued to anyone wishing to use an open flame within the plant for any reason. When a request for such permit is received, an inspection of the area wherein it is desired to use this flame is conducted and any conditions found to be hazardous are eliminated before permit to use the open flame is issued. In areas that are considered hazardous, a fire watch is maintained for the duration of the work. This fire watch is equipped with the appropriate fire extinguisher or water line as indicated by the hazard.

The burning permit is a printed form, divided into four sections, perforated for quick separation. The first section shows the building number, the type of flame to be used, whether or not it is to be used inside or outside the structure, the nature of work for which the flame is to be used, the starting time and the completion time. This portion of the permit is issued to the mechanic doing the work, or the person using the flame, and is held by him until the need for the flame is past. It is then returned to the plant Fire Chief's office.

The second part shows that a burning permit has been issued, and the date and time at which the work is to start. This portion is sent to the Safety Engineer's Office for his information. The third part also shows that a burning permit has been issued and is sent to the appropriate department or division head. The fourth part is a duplication of part one, and is held at the Fire Chief's Office in a follow-up file so that final inspections of an area can be conducted at the completion of work requiring flames. This procedure has received the fullest cooperation of all departments finding it necessary to use open flames, and has been a long step forward in eliminating one of the most common causes of fire.

Buildings are inspected periodically, but not on any regular schedule. This irregular inspection has proved an asset because inspectors could not be clocked or timed as to when they would visit a building for purposes of inspection; the uncertainty tended to keep personnel on their toes at all times, and reduce conditions in all buildings that might contribute to a fire's start.

The STEPHENSON RESUSCITATOR



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HOWE Fire Truck Equipment to Meet Every Service
HOWE FIRE APPARATUS CO. Established 1872 1402 West 22nd Street Anderson, Indiana

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Loaded Stream Extinguisher—
***the* INSTANT**

1. **Fast action on both class A & B fires.**
2. **Anti-freeze to —40° F.**
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4. **Easy to operate (invert, tap plunger).**
5. **No annual recharge needed—weight inspection only.**
6. **Throws a long stream.**

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Champion Fire Pumps

NEW 24-PAGE BOOKLET IN COLORS

Write Today For Your Copy

W. S. DARLEY & CO., CHICAGO 12

Fire prevention activities included constant use of warning posters; instruction classes in the proper use of extinguishers for all employees, use of circulars, pamphlets, and motion pictures, and the constant "selling" of the idea of fire prevention by taking advantage of every opportunity to stress this subject to any and every person who had a moment to "stop, look and listen."

This has all contributed in great measure to the program, which is constantly moving forward. The selling program is the chief aim of every person in the fire brigade and this interest has shown gratifying results in helping make the plant, at this stage, one of the most "fire prevention conscious" in the area.

Persons in the News

Ayers New Birmingham Chief

Hoyt Ayers, former assistant chief of the Birmingham Fire Department, was named Chief on June 1, 1948, it was announced by Public Safety Commissioner Eugene Connor.

The new chief, who heads the largest fire fighting force in Alabama, occupies the post formerly held by J. R. Smith, provisional chief since the retirement in November, 1945, of Chief Alf. Brown.

Chiefs Ayers finished first in a recent civil service examination in which six members of the department competed. The new head of the department, the youngest chief ever to occupy the post, had advanced from private to chief via the examination route, never failing to place first in any civil service test he attempted.

Chief Smith returns to his former duties as assistant chief. The No. 2 man in the examination was Batt. Chief G. L. Collins, in charge of Station No. 2.

Chief Ayers is a member of the International Association of Fire Chiefs and has been active in fire service work in his own and neighboring states.

Cumberland Appoints Brennan Chief

Assistant Chief John E. Brennan veteran of 34 years in the Cumberland, Md. Fire Department, was appointed Chief, effective July 15, 1948. He succeeds Chief Reid C. Hoenicka who retires on pension.

Promoted with Chief Brennan were Capt. Jeremiah T. Defibaugh and Capt. Robert P. Reid, who become Assistant Chiefs, also effective July 15. Defibaugh has been with the department 26 years and Reid, 27 years.

Sudeith Out in St. Paul

Following a political change of administration, it is announced that Chief William J. Sudeith, head of the St. Paul, Minn., Fire Department since 1934, will be succeeded by Edward Novak who, since 1936, has held the rank of captain in the department. He entered the service June 1, 1927 and has for years been active in union organization. He is vice president of the Trades and Labor assembly and has served four years as secretary and two as president in his own union, Local 21 of the Uniformed Fire Fighters. He has been a

member of both the executive board and the board of trustees. At present the new chief is chairman of the union's policy and legislative committee.

Chief Sudeith was born Aug. 16, 1887, in St. Paul and appointed to the department in 1909. He became successively driver, first pipeman, squadman and on April 1, 1921, was made lieutenant. On June 1, 1921, he was advanced to captain and on June 25, 1930, to assistant chief. He was named chief by Commissioner Ned Warren in 1934, and reappointed to the post each succeeding two years by the commissioner of public safety.

Chief Sudeith's friends and many citizens had begun efforts to fight for his retention of the post, declaring his record as chief entitled him to stay on the job.

Prof. Provine to Retire

Prof. Loring Harvey Provine will retire this coming fall as head of the University of Illinois department of architecture, a position he has held for thirty-four years. He is perhaps most widely known for his activities in firemen's training and participation in the Illinois Fire College, which he started in 1925.

Professor Provine will continue as a director in the College, it is reported, and also will keep up his work of revising the national building code of the National Board of Fire Underwriters. He will also travel throughout Illinois, advancing fire prevention and protection and otherwise maintaining contact with the wide circle of friends which he has made as a result of his years of association with the fire service.

Free to Enjoy His Hobby

Thomas McCarthy of Rochester has devoted a busy life to the printing business—that is, when not indulging his hobby of fire fighting. As a youth of 21 he took an examination for city fireman but lost out for physical reasons. His hopes of professional fire fighting were dashed but it never hampered his enthusiasm for the fire service. For thirty-five years Tom has lived, breathed and slept "fires and the fire service." He joined the Rochester Protectives and served as a director for ten years. He is also a life trustee of the Rochester Fire Department and has long been a member of the International Association of Fire Chiefs. Retirement from the printing business means no let-up in Tom McCarthy's enthusiasm for his avocation.

Ex-Chief E. L. Deming Dead

Earl L. Deming, retired Chief of the Windsor Locks, Conn., Fire Department, died on June 28 in St. Francis Hospital, Hartford, Conn. Chief Deming was a native of Winsted but had lived in Windsor Locks for the last 46 years during which time he was employed as foreman of the farm machinery department of the F. S. Bidwell Company.

Chief Deming joined the Windsor Locks Fire Department 31 years ago and served as Chief from 1938 until his retirement in October, 1947. Funeral services were conducted on June 30 with interment at South Portland, Maine.

TOM MAGNER.

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Shown here are only a few items in the *complete* line of Buckeye Fire Fighting Accessories. All are smooth-functioning, *quality* products that are in thoroughly satisfactory use in large and small departments all over the country. Write NOW for catalog of the complete line.

Fig. 900
2½" Shut-off Nozzle

Fig. 935
Junior Chief's Car Whistle

Fig. 925
Siamese Gates

Fig. 930
Junior Type Roto-Ray

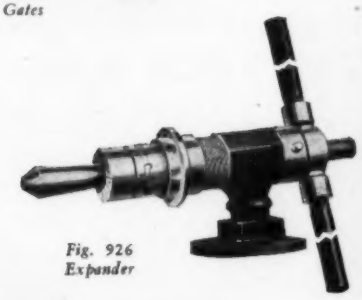

Fig. 926
Expander

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DEPARTMENT E P. O. BOX 883, DAYTON 1, OHIO

OXYGEN BREATHING UNITS

Self - Contained, Self - Generating, Chemical Units. Quick Acting, Light Weight. Unused Navy Surplus in Perfect Condition. Set in Original Box includes 1 Unit with 7 Replaceable Cannisters, Each for 1 Hour Duration. Priced at a Fraction of List, with Satisfaction Guaranteed.

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THEY WANT A RANDOLPH with its panic-proof trigger action that smothers the fire instantly in a snowy blanket of carbon dioxide. No mess, no water, no damage, even to food. It evaporates without a trace.

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Quick profits await those who act at once. Four sales a day net $168.00 a week. Write today for full or part-time plan, territories, demonstration kit, etc. Don't delay.

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Chief Palmer Honored

Hendrix Palmer, who rode a horse drawn buggy into the Charlotte, N. C., Fire Department when he joined the force 44 years ago, rode out last month in a 1949 Buick, the gift of citizen admirers in tribute to his 21 years reign as fire chief and his career as an honored public servant.

Retire Chief Hendrix Palmer leaves the post as head of the Charlotte Fire Department, Which He Occupied for 21 Years, Following Presentation of a New Buick by Admiring Citizens and Friends. Mayor H. H. Baxter Congratulates Chief Palmer, While A. J. Gocking (Right), Chairman of the Citizens Committee, Which Presented the Auto, Looks on Approvingly

The ceremony marking Chief Palmer's retirement was brief and touching. Mayor H. H. Baxter, in presenting the keys to the new car, referred to Palmer's distinguished service and revered standing in city, state and nation. "You have been the Charlotte Fire Department, and the fire department has been you," the Mayor added.

Chief Palmer in his response said, "I leave my congratulations to the man who succeeds me as chief of the finest fire department in the world." He referred to Chief Donald S. Charles, who was among the 50 and more fire officers, city officials and others who attended the simple ceremonies.

D. G. SPENCER

Ex-Fire Chief Dr. Chester Warren Chapman Feted

Former Fire Chief Dr. Chester Warren Chapman, of Nevada City, Calif., was honored June 5, 1948, at a dinner at the National Hotel, and a reception held at the Elementary School auditorium in Nevada City, sponsored by The Historical Society of the Native Sons, the Elks, and the former chief's many friends. The dinner was attended by over 500 and the reception by over 1,000 admirers. Judge James Snell was master of ceremonies.

Chief Chapman was for sixty-six years a member of the Nevada City Fire Department. He still retains his membership and his interest in the organization. He served his community as mayor and councilman as well as chief and received great acclaim for his participation in the erection of the Donner Monument at the foot of Donner Lake.

A long list of prominent speakers and

entertainers participated in the ceremonies. Ex-Chief Chapman is a member of the Northern California Fire Chiefs Association, Nevada County Fire Chiefs and Firemen's Association, and the Nevada City Fire Chief and Firemen's Association.

VICTOR BARTLEY

Appointments and Promotions

MAYNARD, MASS.—Philip A. Wilson was elected Chief Engineer of the Maynard Fire Department, succeeding Richard Allen, who resigned as Chief but retained his membership in the Board of Engineers. Chief Wilson is an attorney-at-law and has been a member of the Board of Engineers for the past two years.

HENRY T. HANSON

WESTBORO, MASS.—Winthrop Spinney was elected Chief Engineer of the Westboro Fire Department, succeeding George Higgins, who resigned. The position of Chief has been placed on a full-time basis for the first time. Chief Spinney has served a number of years as Assistant Chief.

HENRY T. HANSON

ANTIOCH, ILL.—James (Jim) McMillen has been named Chief of the Antioch Fire Department, succeeding the late Clete Vos. Chief McMillen, former University of Illinois football player and wrestler, is vice-president of the Chicago Bears National Football league team. He previously served as Assistant Chief. (WALTER B. HUTTON, Chief, Waukegan, Ill., Fire Dept.)

HUNTSVILLE, ALA.—R. C. Coble has become Chief of the Huntsville, Ala. Fire Department, as successor to the late Chief Russell M. Milan. Claude U. Herrin was appointed Assistant Chief. The new Chief has been a member of the department 28 years, and served as assistant Chief since 1920. Assistant Chief Herrin joined the department in 1929.

ALBANY, CALIF.—Robert E. Harris has been appointed Fire Chief of the Golden Gate Fields Fire Department at Albany, Calif. He is a member of the International-Pacific Coast Inter-Mountain Association of Fire Chiefs; Northern California Fire Chiefs Association; California State Firemen's Association, and Alameda County Fire Chiefs and Firemen's Association.

VICTOR P. BARTLEY

NILES FIRE DISTRICT, CALIF.—Former Fire Chief A. M. Alves of Niles, Calif., was selected by the Alameda County Board of Supervisors to succeed the late Joe Gomez as Commissioner of the Niles Fire District.

VICTOR P. BARTLEY

A Correction

In the June FIRE ENGINEERING, page 384, an item was published over the name of Horace B. Clark, which told about a freak fire in Wheeling, W. Va.

The editors desire it known that the item in question was not written by Mr. Clark, who merely contributed the news clipping from which the text was prepared.

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Specify HALE

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Built in all standard capacities, they are highly efficient and dependable pumps, designed for use with modern engines.

Make sure of the same flexibility and dependability in your next piece of apparatus by insisting on a Hale Fire Pump.

At left—Hale Multi-service Type ZL Centrifugal. Underwriters' rating 500 GPM.

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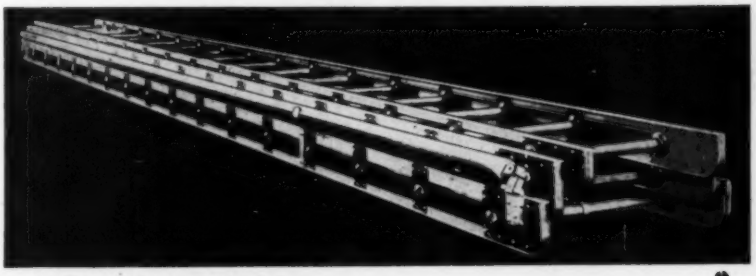
Aluminum FIRE LADDERS



ALUMINUM IS LIGHT
When time is precious and manpower is at a premium, light-weight Aluminum Ladders are your most efficient life-saving and fire-fighting tools for they require fewer firemen to raise and operate them successfully.

ALUMINUM IS STRONG
Available in 1, 2, 3 and 4-section models, every Alumnium Ladder is heavily riveted and constructed of high-tensile-strength Aluminum Alloy. The corrugated rungs are securely fastened with aluminum expansion bushings, with the result that the rungs never become loose or break off.

ALUMINUM IS DURABLE
Practically all of the ALUMINUM FIRE LADDERS purchased since 1936 are still in use today. Being fireproof and rust proof they last longer than other types. Write for Complete Information.

"Original Manufacturers of Aluminum Ladders"

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200 Carbis Street
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More Firemen ask for "SIREN" Boots than any other name or brand

This is your guarantee of foot comfort, safety, long wear

Sold only through authorized distributors

A PRODUCT OF

BEACON FALLS RUBBER FOOTWEAR

BEACON FALLS, CONNECTICUT

News of the Manufacturers

(*Continued from page* 454)

Made for fabric rubber-covered hose, it is bronze and comes chrome plated upon request. It is 4½ inches long.

The full inside diameter of the hose is maintained throughout the coupling so there is no friction loss or restriction of flow.

Stettler Now With Elkhart Brass

The appointment of H. Louis Stettler, Jr., as Executive Vice-President of the Elkhart Brass Mfg. Co., of Elkhart, Ind., has been announced by E. H. Hansen, President of the company.

Mr. Stettler, who is widely known in fire circles throughout the country,

H. Louis Stettler, Jr.

joined the Elkhart organization June 17, following his resignation as Executive Vice-President, Treasurer and Director of the Akron Brass Mfg. Co., of Wooster, Ohio, and its subsidiary, Fog Nozzle International, Inc., of Los Angeles. He has been associated with Akron Brass for the past twelve years, serving in managerial capacities in practically every branch of the business, particularly in the sales and financial ends. Prior to that time he was for a number of years engaged in public accounting work. He is a university graduate and also attended Law School.

'Tony' Unruh Joins Chevrolet

A. J. "Tony" Unruh, who has been associated with W. S. Darley & Co., Chicago, for the past twelve years, has

A. J. Unruh

accepted a position with the Nelson Chevrolet Sales, Inc., Chicago, Ill., as manager of fleet sales of commercial cars and trucks.

Mr. Unruh, while with the Darley

JANESVILLE QUALITY TURN OUT CLOTHING

Our turnout suits are giving excellent satisfaction in most of the large fire departments throughout the U. S. and

THERE MUST BE A REASON WHY SO MANY FIREMEN INSIST ON JANESVILLE QUALITY

NOW AVAILABLE

We can now supply old type ¾ Length and Knee Length Felt-lined Firemen's Boots.

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HIGH POWER PORTALITE

The finest dry battery portable light made. Mile range. Powerful searchlight beam for 8 to 10 continuous hours. Instantly ready for any fire. Diameter 6". Size 14" high x 10" x 6". Only 9 lbs.

Write For Folder

"Master-Light-Makers for 34 Years"

CARPENTER MFG. CO.

200 Master-Light Bldg.
BOSTON-45-SOMERVILLE
MASSACHUSETTS

Company, served in the capacity of purchasing agent, sales manager and production manager of fire apparatus. During the war, Mr. Unruh's work in connection with the purchasing of materials for military fire fighting equipment contributed materially to the W. S. Darley Company winning for the third time the Army and Navy "E" award.

Nolte Heads Southern New Yorkers

George A. Nolte of Mount Vernon, N. Y., was elected president of the Southern New York Volunteer Firemen's Association at the organization's 53rd Annual Convention, June 26, 1948, at Farmingdale, L. I.

Benjamin G. Huskisson of Port Jefferson, was named first vice president; Albert J. Plessis of Flushing, second vice president; Calvin V. Zier of New Hyde Park, secretary; Philip Peters of Patchogue, treasurer; Cornelius Falch of Rye, sergeant-at-arms, and the Rev. Arthur J. Pennell, pastor of the Roosevelt Methodist Church, chaplain.

The parade on June 26th included 2,000 volunteer firemen and 205 pieces of apparatus.

Calif. Forestry Radio Switches from 72-76 MC Band

Because the FCC has ordered that there be no operation of radio systems of forestry stations in the 72-76 megacycle band except where it can be shown that such operations would not interfere with television stations, the state of California was granted special temporary authority by the Commission June 2nd, according to "Tele-communication Reports," to shift its 16 existing forestry repeater stations to 161.67 megacycles and to add four new stations on that frequency. The authorization is for a period of eight months.

The authorization was of an emergency nature because of the impending forest fire season in California. The new frequency is in the band allocated to the railroad service, but it was understood that the grant had the approval of the Association of American Railroads.

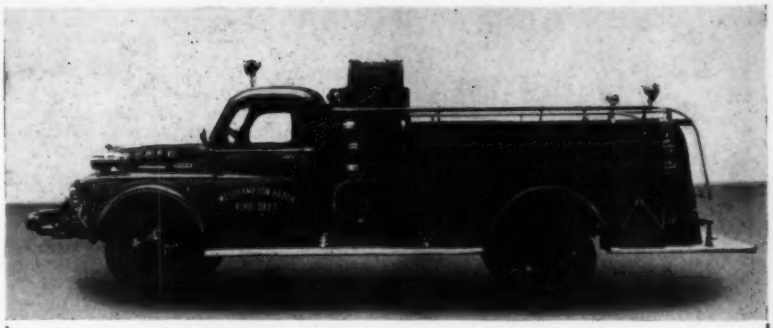
The four new stations will be located at Lowe Peak, Cold Spring, Palomar Observatory and Twin Peaks. Motorola radio equipment will be used.

Hamilton, Ont., Buffs Organize

Inspired by "Montreal Auxiliary Firemen," the incorporated and registered organization of the city's fire buffs, kindred spirits of Hamilton, Ontario, have formed the Hamilton Auxiliary Firemen, according to J. F. McGurk, president of the Montreal group.

Plans were formulated and officers elected in the recent preliminary meeting in the Royal Connaught Hotel in Hamilton. The officers are William Innes, president; Joe Gripper, secretary and Glen Crawford, treasurer. Serving in advisory capacities are W. Baldwin, R. P. Larter, Albert Cooke and Wiff. Chapman.

Discussions were also held with Fire Chief Murdoch and Deputy Chief O'Connor of the Hamilton Fire Department as well as with the local Board of Control of the City. A charter will



WESTHAMPTON BEACH, N. Y. Standard 500 gal. triple combination, front end pumper. Built on standard chassis.

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Every fire department has special emergency problems to cope with . . . and standard equipment cannot always meet those requirements. Sealand builds special Fog and Booster Equipment as well as Rescue Trucks to your specifications . . . on standard chassis . . . within your budget requirements. Submit your specifications.

THE SEALAND CORPORATION
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Builders of Rugged Fire Fighting Equipment and Dependable Fire Alarm Systems.

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THE NEW DELUXE
WHEAT
Rechargeable Spotlight
NOW AVAILABLE FROM STOCK

MODEL 253

ALL PARTS HIGH LUSTRE, CHROME FINISH—EQUIPPED WITH PROTECTIVE LENS GUARD AND ALL-LEATHER CARRYING STRAP

FEATURES

- Less expensive operation than dry cells.
- Free use of hands. Light carries conveniently on shoulder strap.
- Positive "Non-spill" construction.
- Light can be focused and directed as desired.
- Weighs only 95 ozs. complete.
- Simple to charge and water. No need to take lamp apart.
- Price and operating cost make Wheat adaptable to any budget.

2,500 FOOT BEAM
25,000 CANDLE POWER
1,000 HOURS OPERATION

KOEHLER MFG. CO.
MARLBORO, MASSACHUSETTS

shortly be sought. The fire department has promised the new organization full cooperation.

Meantime, the Montreal Auxiliary Firemen "are doing everything possible to have other groups formed in the large centers and cities and some day organize a central or Federal organization for the whole of the Dominion."

President McGurk further added: "We believe that men whose sole hobby and spare time interest is in fire departments and personnel who form buffs such as ours can be of service to their communities in many ways."

New California Chiefs Group Formed at Northern Chiefs Meeting

The Spring Conference of the Northern California Fire Chiefs was held May 15 and 16, at Seiglers Springs, Lake County. One of the most important features to come out of the gathering was the organizing of an Executive Organization which is called the California Fire Chiefs Association. The new body was agreed upon by the Northern and Southern California Fire Chiefs.

Membership in the California Fire Chiefs Association is to be composed wholly of bona fide fire chiefs. The membership will function as a body representing the fire service in legislation and other matters for the State of California. While the Northern and the Southern Sections will retain their own identity and their membership will be composed of chiefs of all grades, firemen and friends and well wishers of the fire service, only the chiefs of departments will be permitted to vote on any subject, and election of officers in the new set up. Also chiefs of departments only will hold office.

The new organization draft was worked out through the united efforts of both California organizations and is as yet incomplete. The final details will be handled by the Northern and Southern groups of fire chiefs at Sacramento during the Convention of the Pacific Coast Association of Fire Chiefs, which will be held in that city in October, prior to the Miami Convention of the International Association of Fire Chiefs.

Marking an innovation at the Spring Conference of the Northern Chiefs was the devotion of almost the entire business session to round table discussions. Prior to the conference, members submitted their ideas for the program and these were screened by the Board of Directors and the selected subjects covering matters of greatest interest to the greatest number were then made the subjects of round table discussions. The round table was led by Chief Frank Sandy of Piedmont. In point of interest and educational value, the new feature was rated the best program the Chiefs had ever held.

Officers (all chiefs) elected for the ensuing year are: president, Louis Ledford, Palo Alto; first vice-president, Lester Olivero, Ashland; second vice-president, George Turnbull, Lakeport; third vice-president, Lloyd Edwards, Crockett; treasurer, Frank Sandy, Piedmont; secretary, Thomas Lane, Alameda; chairman, board of directors, Ozzie Ball, Patterson; sergeant-at-arms, Bert Rose, Emeryville.

CHIEF THOMAS LANE

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Far North Has Hot Fires, Too

Fire Chief S. A. Dunbrack of the Whitehorse Fire Department, Yukon Territory, emphatically wants it known to readers of FIRE ENGINEERING that the fire service of the far North has good (or bad) fires, as well as their brothers in the East, and that their fire fighting equipment and personnel is also right up "on top of the world."

As evidence, he recounts a fire on Sunday, June 20, 1946, at the R. L. Graham garage, which proved a total loss to building and contents with damage (not insured) of $40,000.

The department responded with one 750 and one 500 GPM pumper, taking suction from the river. According to Chief Dunbrack, pumping time was 2¼ hours. He states further that the only accident during the fire was to a girl who attempted to climb over a barbed wire fence when a drum of oil and one of gasoline exploded, sending a ball of fire in her direction.

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of June, 1948.

Month Ending June 30, 1948

Anoka, Minn.—Business bldg., Main Street, damaged.
Somersworth, N. H.—Bergeron Baking Co. damaged. Overheated dough machine.
Greenville, N. C.—Cotton gin and bldg. of woodworking plt. of Winterville Cotton Oil Co., Winterville section, destroyed. Another bldg. damaged.
Mankato, Minn.—Honeymead-Mankato soybean plt. destroyed.
Columbus, Ohio—Section of M. Hertenstein & Co. foundry, South Columbus, damaged.
Woodbridge, Va.—Dwelling of George H. Herring, known as Feather-Stone Farm, destroyed.
Dallas, Tex.—Texas Wholesale Grocery Corp. bldg. damaged. Contents belonging to Wyatt Food Stores, damaged.
Oklahoma City, Okla.—Tinker air base supply whse. damaged.
Seattle, Wash.—Sweden Freezer Mfg. Co. destroyed.
Los Angeles, Cal.—Hillcrest Country Club totally destroyed. Blast occurred during installation of new gas main.
Miami Beach, Fla.—Copacabana Nightclub damaged.
River Forest, Ill.—Edgar T. Ward Circulating Fan Co. destroyed. Lumber pile in basement.
Duluth, Minn.—Lakewood School, three miles northeast, destroyed.
Frederick, Okla.—Meadors Watson Chevrolet Co. damaged. Steam compressor explosion.
Lancaster, Pa.—Grand Theatre, Dore Rand Children's Clothing Store, Father & Son Shoe Store, Crane's Clothing Store and apts. damaged.
Pharr, Tex.—The Pape Allison packing shed and seven cottages at Rio Vale Courts damaged.
Hopetown, Ont.—Cheese box factory and sawmill destroyed.
Anchorage, Alaska—Three business bldgs., two residences, destroyed in main business district.
Glassboro, N. J.—Public School, Aura, destroyed.
Trenton, N. J.—Industrial Arts Bldg. of Trenton State Teachers College, destroyed.
Kilgore, Tex.—Tulsa hotel damaged. Flash fire.
Burbank, Cal.—King Cole super market damaged. Adj. R. L. Medlin Variety Store also damaged.
Chicago, Ill.—Shaps-Jaffe Used Car Co. damaged.
Chicago, Ill.—Garfield Bowling Alleys damaged.
Brighton, Ill.—Lumber yd. of Hanson Construction Co. damaged.
Indianapolis, Ind.—Danners Bros. Variety Store, Fountain Square district, damaged.
Lowell, Mass.—Dana Trucking Co. terminal damaged.
Detroit, Mich.—Arco Bolt-Screw Co. destroyed.
Ridgewood, N. Y.—Lumber yd. and bldg. of Stewart Co. luncheonette and junkyard office, damaged.
East Liberty, Pa.—Plt. of S. W. Means Lumber Co., destroyed. Spontaneous ignition.
Buffalo, N. Y.—Bldg. of Master Metal Products, Inc., damaged.
Buffalo, N. Y.—St. Joseph's Collegiate Institute, a private Catholic high school, damaged. Oil mop.

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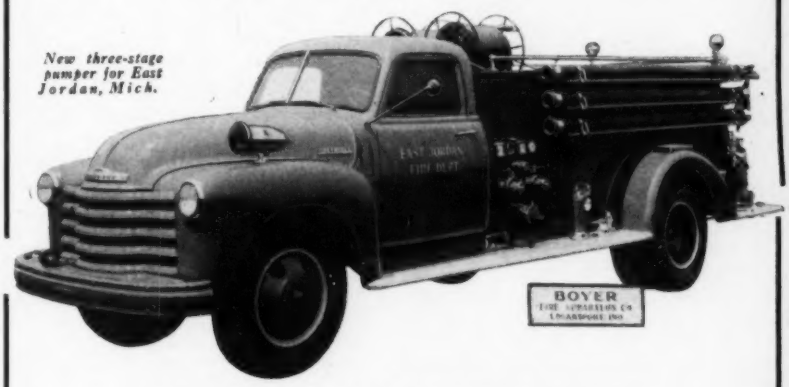

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Toronto, Ont.—Wool processing plt. of Union Felt Products, Ltd., damaged. Spark from machine.
Blytheville, Ark.—Theatre bldg. at Blytheville Army Air Base damaged.
Wilmington, Cal.—Union Oil Co. refinery plt. damaged. Explosion in low pressure evaporator.
Romouski, Que.—Price Brothers & Co. sawmill, village of Price, damaged.
Thurso, Que.—Stores owned by Maurice and Ernest Desjardins, A. D. Thomas Robert, damaged.
Fort Dodge, Ia.—The Standard Engineering Co., mfrs. of farm equip., destroyed.
Chicago, Ill.—Airplane hangar, six airplanes and trailer of Ravenswood Airfield, destroyed.
Lexington, Ky.—Whse. of Wombwell Automobile Parts Co., destroyed.
Fulton, Miss.—E. W. Riley Lumber Co. plt. destroyed. Sparks from smouldering sawdust pile.
Vernonia, Ore.—McDonald Hotel destroyed. Cigarette.
Beaverlodge, Alta.—Two service garages, machine shop, variety shop, genl. store, whse. occupied by restaurant, shoe shop and civic offices, destroyed. Four other bldgs. damaged.
Macon, Ga.—Sawmill and lumber yard of Hamlin Lumber Co., nine miles southwest, Bibb County, destroyed.
Columbia, Ky.—Several bldgs. at Henry Sandusky Lumber Mill destroyed.
Rochester, Minn.—Gasoline filling station of Skelly Oil Co. damaged. Gasoline ignited.
Sussex, N. J.—Sussex County Distilling Co., Quarryville section, four miles away, damaged.
Syracuse, N. Y.—Piccadilly Hotel damaged.
Clarksville, Tenn.—Tennessee Central Railroad freight depot destroyed; also depot and office of Richardson Coal & Feed Co. and 8,000 gallon tank of gasoline, destroyed.
Los Angeles, Cal.—California Piece Dye Works plt.; six structures damaged and thousands of yards of textile burned; two adj. houses damaged. May have been caused by sparks in textile processing unit.
Culver City, Cal.—Middletown Lumber Co.; whse. filled with finished window frames and sashes damaged.
Rising Star, Tex.—Higginbotham Mercantile Whse., the Star Drug Co., Cinderella Dress Shop and two storage bldgs. destroyed.
Hinesville, Ga.—Planing mill of Pine Mountain Lumber Co., edge of Camp Stewart Reservation, destroyed.
Olney, Ill.—Plt. of Sunshine Laundry damaged.
Springfield, Mass.—Business bldg., 3 Post Office Alley, destroyed.
Lakeview, Ore.—Adams Sawmill, Valley Falls, 23 miles north, destroyed. Sparks from burner.
St. Joseph, Mo.—Hangar, 21 airplanes and mess hall, Rosecrans Field, used by National Guard, destroyed.
Statesville, N. C.—Blackwalder Furniture Co., destroyed.
Pittsburgh, Pa.—Garage, suburban area, destroyed. Leaking natural gas line.
Mount Vernon, Wash.—Skagit Golf and Country Club destroyed.
Quincy, Mass.—Livestock and barn on farm of George M. Hodgkinson, Germantown Neck section, destroyed.
Brownsville, Pa.—Genl. store, six miles east, destroyed.
Cudahy, Wis.—Laboratory at Ladish Co., drop forge plt. damaged. Short circuit.
Brantford, Ont.—Elliott Wedlake Hardware Store destroyed.
Picton, Ont.—Cattle barn, Picton fairgrounds, destroyed.
St. Jean Chrysostome, Que.—Workshops of Ferland & Freres, Ltd., destroyed.
McNary, Ariz.—Planing mill, box and molding factories of Southwest Lumber Mills, Inc., destroyed.
Live Oak, Fla.—Glass Motor Co. bldg. destroyed.
Cimarron, N. M.—Planing mill of Capitol Land and Timber Co. damaged. Sparks from pit fire burning sawdust.
Portland, Ore.—Hiway Theatre, Rollerdrome destroyed. Cigarette.
Alice, Tex.—Union Bus Station, cafe, three whses. used by electric company, furniture store and feed and seed company, insurance agency office of Keith Cook, a business office, destroyed.
Park Falls, Wis.—Gannon block, occupied by A. & P. Store, Resar Bros. meat market, Gannon Variety Store; and adj. bldg. occupied by Central Drug Store, R. Kaske's Shoe Shop, Kay's Jewelry Store and Ernest Bourgois Barber Shop, damaged.
Big Bear, Cal.—Peter Pan Club bldg. totally destroyed.
Chicago, Ill.—Whse. and ind. bldg. occupied by Decca Distributing Corp., damaged.
Bedford, Ind.—Furniture storage bldg., south section, destroyed.
Lowell, Mass.—Middlesex Supply Co., hardware store, destroyed.
Providence Forge, Va.—Hughes bldg. destroyed.
Chinook, Wash.—Chinook Packing Co., plus 12 carloads canned salmon, destroyed.
Lindsay, Ont.—Martin block of stores destroyed. George Williamson Electrical store and sports store of Bruce Torrance, damaged.

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Island Falls, Me.—Two potato whses. at Belvedere Siding on Bangor & Aroostock Railroad line, destroyed.
Toms River, N. J.—Mill and whse. of United Feed Co., Inc., South River Borough, destroyed. Lightning bolt.
Loveland, Ohio—Feed barn on Deejay Farm, Murray Road, destroyed. Spontaneous ignition.
Marshall, Tex.—Main bldgs. and drying sheds of Marshall Brick Co., destroyed.
Ste. Agathe, Que.—Quay's Mills, Lac Brule, 2½ miles north, destroyed.
Los Angeles, Cal.—Colmar Textile Printing Co. plt. destroyed.
Eunice, La.—Eunice Rice Milling Co. bldg. destroyed.
Searcy, Ark.—Bldgs. and contents of the O. C. Wakenigh Co. refrigerator dealers; Rodgers photograph studio; R. M. Barlow cafe and Wall's barber shop, destroyed. The Sanitary Market and Pastime Billiard Parlor suffered severe damage.
Yellville, Ark.—The Western auto store, Rudolph Harris Cafe and Layon Cafe destroyed; the Four-Way Service Station damaged.
Caruthersville, Mo.—Lumber shed and offices of Pemiscot Lumber and Supply Co., Inc., destroyed.
Guymon, Okla.—Rendezvous Night Club destroyed.
Sioux Falls, S. Dak.—Whse. of A. Y. McDonald Mfg. Co. destroyed.
Nashville, Tenn.—Stable and machinery barn on State Agricultural and Industrial College for Negroes, damaged.
Toronto, Ont.—Bowlaway, Ltd., bowling alleys, destroyed. Farmers Market bldg., three stores, garage, apt. bldg., damaged.
Laurens, Ia.—Whse. of M. & J. R. Hakes, wholesale grocers and poultry and produce packing firm, damaged.
Monroe, Ohio—Monroe Lumber Co. storage yard, Butler County, damaged.
Los Angeles, Cal.—Marcal Theatre damaged. Blaze originated in orchestra pit.
Chicago, Ill.—Bldg. owned by S. Bartkus, communicated to dwellings adj., damaged.
Portland, Ore.—Nursery Room, neighborhood theatre, damaged.

Convention Dates

July 22-24—MICHIGAN STATE FIRE FIGHTERS ASSOCIATION. Annual meeting, Ironwood, Mich. Secretary, Walter S. Kellett, #1 Fire Station, Ironwood, Mich.

July 23-24—ASSOCIATION FOR FORMER U. S. NAVY, COAST GUARD and MARINE CORPS FIRE FIGHTERS. Annual meeting Kankakee, Ill. Secretary-Treasurer, William J. Mignery, R. No. 5, Elkhart, Ind.

July 26-27—MISSISSIPPI STATE FIREMEN'S ASSOCIATION. Annual meeting, Natchez, Miss. President, Chief R. G. Duren, Fire Headquarters, Greenwood, Miss.

July 26-28—WISCONSIN STATE FIRE CHIEFS' ASSOCIATION. Annual meeting. LaCrosse, Wis. Secretary, Chief Arthur J. Rahn, Fire Headquarters, Two Rivers, Wis.

July 26-29—WEST VIRGINIA STATE FIRE SCHOOL. Annual meeting, West Virginia University, Morgantown, W. Va. Director, R. E. Hanna, Jr., Fire Service Extension School, School of Mines, West Virginia University, Morgantown, W. Va.

July 27-30—DOMINION ASSOCIATION OF FIRE CHIEFS. Annual meeting, Lethbridge, Alta. Secretary-Treasurer, Chief Allan H. Clark, Fire Headquarters, Lakefield, Ont.

July 30-Aug. 1—OHIO STATE FIREMEN'S ASSOCIATION. Annual meeting, Neil House, Columbus, Ohio. Secretary, Chief M. W. Gifford, 5705 Market Street, Youngstown 5, Ohio.

Aug. 2-3—WISCONSIN PAID FIREMEN'S ASSOCIATION. Annual meeting, Madison, Wis. Secretary-Treasurer, John Kromel, 717-56th Street, Kenosha, Wis.

Aug. 2-6—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. Annual meeting, New Orleans, La. Secretary-Treasurer, Chief G. R. McAlpine, Fire Headquarters, Oklahoma City, Oklahoma.

Aug. 2-6—PENNSYLVANIA FIRE SCHOOL. Annual meeting, Lewistown, Pa. Director, Edgar A. Spotz, Adviser, Fire Service Training, Public Service Institute, Harrisburg, Pa.

Aug. 4-5—WISCONSIN STATE ASSOCIATION OF FIRE FIGHTERS. Annual meeting, Madison, Wis. For information contact Local No. 311, City Fire Fighters' Union, Madison, Wis.

Aug. 16-20—FLORIDA STATE FIRE COLLEGE. First of two sessions, Ocala, Fla. Coordinator, J. P. Britton, Florida Fire College, Ocala, Fla.

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2½ gal. Soda & Acid extinguishers complete $20.00.
2½ gal. Foam extinguishers complete $22.00
1 qt. Pyrene Liquid, 20 to case—$22.00 case.
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2½ gal. 2 solution foam charge, 6 to case—$6.60 case.

All prices FOB Utica, N. Y. 2% discount if cash is sent with order.

Write for special discounts allowed to Departments wishing to sell extinguishers to community, as fund raising program.

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Convention Dates

Aug. 17—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. Annual meeting, Rome, N. Y. Secretary, Eugene M. Braun, 4025 Main Street, Buffalo 21, N. Y.

Aug. 19-21—OHIO FIRE CHIEFS' ASSOCIATION. Annual meeting, Toledo, Ohio. Secretary, Assistant Chief William H. Rosche, c/o Fire Department, Canton 2, Ohio.

Aug. 20-22—LANCASTER COUNTY FIREMEN'S ASSOCIATION. Annual training conference, Lancaster, Pa. For information, contact Assistant Chief Frank Deen, 33 N. Mary Street, Lancaster, Pa.

Aug. 21—BALTIMORE COUNTY VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Lansdowne, Md. Secretary, William A. Chenoweth, Milford Road, Pikesville 8, Md.

Aug. 23-27—FLORIDA STATE FIRE COLLEGE. Second session, Ocala, Fla. Coordinator, J. P. Britton, Florida Fire College, Ocala, Fla.

Aug. 30-Sept. 4—WESTERN PENNSYLVANIA FIREMEN'S TRAINING INSTITUTE. Annual meeting, California, Pa. Secretary, Chief Henry Neill, Box 83, Vestaburg, Pa.

Aug. 30-Sept. 3—TENNESSEE STATE FIRE SERVICE SCHOOL. Annual meeting, Murfreesboro, Tenn. For details, contact Fire Department, Murfreesboro, Tenn.

Sept. 3-4—INDIANA FIREMEN'S ASSOCIATION. Annual meeting, Anderson Hotel, Anderson, Ind. Secretary, Dee L. Corbin, P. O. Box 95, Bedford, Ind.

Sept. 4-5—NEW HAMPSHIRE STATE FIRE TRAINING SCHOOL. Annual meeting, University of New Hampshire, Durham. Secretary, New Hampshire Fire Chiefs Club, James A. Brahaney, c/o Nashua Fire Department, Nashua, N. H.

Sept. 7-9—KENTUCKY FIREMEN'S ASSOCIATION. Annual meeting. Bowling Green, Ky. Secretary, V. A. Beam, 818 Sutcliffe Avenue, Louisville, Ky.

Sept. 7-11—MARYLAND STATE FIRE SCHOOL. Annual meeting. University of Maryland, College Park, Md. Director, Chief James W. Just, Fire Service Extension, College of Engineering, Universtiy of Maryland, College Park, Md.

Sept. 7-11—FOURTH ANNUAL SHORT COURSE IN FIRE ADMINISTRATION. Ohio State University, Columbus, Ohio. For information, contact Prof. Harvey W. Walker, Room 100, University Hall, Ohio State University, Columbus 10, Ohio.

Sept. 11—BATTALION CHIEFS COUNCIL OF NASSAU COUNTY. Annual tournament and parade, Hempstead, L. I., N. Y. For information, contact Edmund H. Wirth, Secretary, Hempstead Fire Department, Hempstead, L. I., N. Y.

Sept. 13-17—INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS. Annual meeting, Houston, Tex. Secretary-Treasurer, George J. Richardson, A. F. of L. Building, Washington, D. C.

Sept. 19-23—CALIFORNIA STATE FIREMEN'S ASSOCIATION. Annual meeting, Santa Cruz, Cal. For details contact Chief Louis L. Gomes, Fire Headquarters, Santa Cruz, Cal.

Oct. 14-16—ILLINOIS FIREMEN'S ASSOCIATION. Annual meeting, Rockford, Ill. Secretary, Chief Roy W. Alsip, Fire Headquarters, Champaign, Ill.

Sept. 14-16—MICHIGAN STATE FIRE CHIEFS ASSOCIATION. Annual meeting, Sault Ste. Marie, Mich. Secretary, Chief Orie A. Hand, Lincoln Park, Mich.

Sept. 23-25—INDIANA FIRE CHIEFS ASSOCIATION. Annual meeting, Richmond, Ind. Secretary, Robert F. Hamm, Indiana Rating Bureau, 320 North Meridian Street, Indianapolis 9, Ind.

Oct. 4-7—INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. Annual meeting, Buffalo, N. Y. Secretary, Irvin Shulsinger, 11 West 42nd Street, New York 18, N. Y.

Oct. 25-27—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. Annual meeting, Lincoln, Neb. Secretary-Treasurer, Russell D. Salak, P. O. Box 312, Schuyler, Neb.

Oct. 31-Nov. 3—PACIFIC COAST INTERMOUNTAIN ASSOCIATION OF FIRE CHIEFS. Annual meeting, Sacramento, Cal. Secretary, Jay W. Stevens, Merchants Exchange Building, San Francisco, Cal.

Nov. 9-12—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual meeting, Miami, Fla. Secretary-Treasurer, Chief Daniel B. Tierney, 8 Robbins Road, Arlington, Mass.

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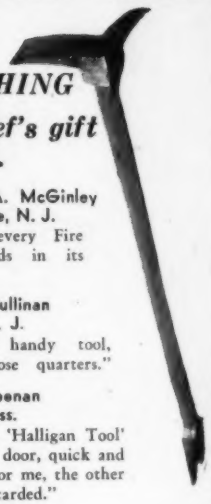

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MIAMI IN NOVEMBER

The 100′ Pirsch Senior Aerial Ladder Truck and two Pirsch 1250-gallon pumping engines shown above are in service at Miami, Fla., the host City for International Association of Fire Chiefs 1948 Convention; November 9th to 12th.

All predictions indicate that the Miami Convention will set new attendance and other records.

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